

# ***Hustler 7500/7700 Owner's Manual***



**HUSTLER®**  
**TURF EQUIPMENT**

•••••

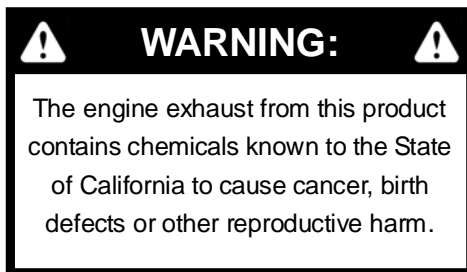
*P.O. Box 7000*

•••

*Hesston, Kansas*

•

*67062-2097*



#### NOTICE OF REQUIREMENT OF SPARK ARRESTER MUFFLER

This equipment may create sparks that can start fires around dry vegetation. California Public Resources Code Section 4442.6 provides that it is unlawful to use or operate an internal combustion engine on any forest-covered, brush-covered, or grass-covered land unless the engine is equipped with a spark arrester maintained in effective working order. A spark arrester is a device constructed of nonflammable materials specifically for the purpose of removing and retaining carbon and other flammable particles over 0.0232 of an inch in size from the exhaust flow of an internal combustion engine that uses hydrocarbon fuels or which is qualified and rated by the United States Forest Service. Other states or federal areas may have similar laws. The Operator Should Contact Local Fire Agencies For Laws or Regulations Relating to Fire Prevention Requirements. THIS EQUIPMENT DOES NOT HAVE A SPARK ARRESTER AND YOU SHOULD CONTACT YOUR AUTHORIZED HUSTLER DEALER FOR THE PURCHASE OF A SPARK ARRESTER.

**Inspect spark arrester daily; replace every 500 hours or as needed.**

The Engine Owner's Manual provides information regarding the U.S. Environmental Protection Agency (EPA) and the California Emission Control Regulation of emission systems, maintenance and warranty.

Keep Engine Owner's Manual with your unit. Should the Engine Owner's Manual become damaged or illegible, replace immediately. Replacements may be ordered per the information found in the Product Information section of the owner's manual.

# GENERAL INFORMATION

**This manual applies to the following Hustler equipment lines:**

## **Hustler 7500/7700**

### **To the new owner**

The purpose of this manual is to assist owners and operators in maintaining and operating the 7500/7700 tractor and cutting units. Please read it carefully; information and instructions furnished can help you achieve years of dependable performance.

A separate Engine Owner's Manual is included with your owner's packet which contains additional engine information that will not be repeated in this manual. You are urged to read it before attempting any operation or repair of the engine.

The decals are designed to give the operator brief information needed in the daily operation and service of the machine. These decals are not intended to be used in place of this manual but instead are to be used as an extension of this manual. These decals should not be removed or obliterated. Replace these decals if they become unreadable.

It is the **owner's responsibility** to make certain that the operators and mechanics read and understand this manual and all decals before operating this machine. It is also the **owner's responsibility** to make certain that the operators and mechanics are qualified and physically able individuals, properly trained in the operation of this equipment. All operator and mechanics must become familiar with the safe operation of the equipment, operator controls and safety signs.

Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.

**IMPORTANT:** For more detailed maintenance and adjustment information refer to the proper parts manual for your machine. Refer to the Product Literature section of this manual for ordering information.

The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

### **Using this manual**

General operation, adjustment and maintenance guidance is outlined for both the experienced and novice Hustler user. Operating conditions vary considerably and cannot all be addressed individually. Through experience, however, operators should find no difficulty in developing good operating skills suitable to most conditions.

Directions used in this manual, for example RIGHT or LEFT, refer to directions when seated on tractor facing forward, unless

otherwise stated.

Photographs and illustrations used were current at the time of printing, but subsequent production changes may cause your machine to vary slightly in detail. Hustler Turf Equipment reserves the right to redesign and change the machine as deemed necessary, without notification and without incurring any obligation to make changes or additions to equipment sold previously. If a change has been made to your machine which is not reflected in this owner's manual, or the parts manual, see your Hustler dealer for current information and parts.

### **Warranty registration**

The Delivery and Warranty Registration form must be completed and signed to validate your warranty protection. As the new equipment owner, you are expected to see that the form is completed and forwarded to Hustler Turf Equipment at time of delivery.

Be sure to register the tractor plus each attachment that displays a model and serial identification number plate with Hustler Turf Equipment.

**IMPORTANT:** Any unauthorized modification, alteration, or use of non-approved attachments voids the warranty and releases Hustler Turf Equipment from any liability arising from subsequent use of this equipment.

### **Model and serial number**

Tractor model and serial numbers are found on the serial identification plate, located on the frame directly in front of the left rear wheel.

These numbers are required on the Warranty Registration form. They will also assure you of the correct service parts when replacement becomes necessary.

### **Parts and service**

Use original Hustler replacement parts only. These parts are available through your local Hustler dealer. To obtain prompt, efficient service, always provide the following information when ordering parts:

1. Correct part description
2. Correct part number
3. Correct model number.
4. Correct serial number.

All warranty repair and service must be handled through an authorized Hustler dealer. Arrangements should be made through your local service center.



**7500/7700 TRACTORS**  
**HUSTLER TURF COMMERCIAL PRODUCT**  
**THREE YEAR (2000 HOURS) LIMITED WARRANTY**

**WHAT IS COVERED BY THIS WARRANTY**

Hustler Turf Equipment, makes the following warranty to the original purchaser only:

- a.** Hustler Turf Equipment Tractors and Power Units are warranted for **three (3) years or 2000 hours whichever comes first, from date of delivery** on all defects in materials and workmanship.

If the Purchaser discovers within this warranty period a defect in materials or workmanship:

- He must promptly notify Hustler Turf Equipment, or an authorized dealer, in writing of the defect. In no event shall such notification be received by Hustler Turf Equipment, or an authorized dealer later than 30 days after expiration of warranty.
- Within a reasonable time after such notification, Hustler Turf Equipment, will correct any defect in material or workmanship on the Hustler Turf Equipment, by repairing or replacing part(s) with either new or used replacement parts.
- Such repair, including parts and labor shall be at the expense of Hustler Turf Equipment, and,

- b. Rental Units (90 days):** Within 90 days of date of delivery Hustler Turf Equipment, provides a limited warranty on all materials and workmanship for units used for rental purposes.

- If the Purchaser discovers within this warranty period a defect in materials or workmanship:
- He must promptly notify Hustler Turf Equipment, or an authorized dealer, in writing of the defect. In no event shall such notification be received by Hustler Turf Equipment, or an authorized dealer later than 120 days from date of delivery.
- Within a reasonable time after such notification, Hustler Turf Equipment, will correct any defect in material or workmanship on the Hustler Turf Equipment, by repairing or replacing part(s) with either new or used replacement parts.
- Such repair, including parts and labor shall be at the expense of Hustler Turf Equipment, and,

- c. The Shibaura diesel engine** is covered by a three (3) year or 2000 hour, whichever comes first, limited warranty, to the original owner only, and,

- d. The battery** is covered by a one (1) year limited warranty to the original owner only.

**WHO MUST PERFORM THE WARRANTY SERVICE**

All warranty service will be performed by dealers authorized by Hustler Turf Equipment. **Service calls and/or transportation expense** of the product to and from the authorized dealer, for warranty work, will be paid by the owner of the product. For warranty service contact an authorized dealer.

**WHAT IS NOT COVERED BY THIS WARRANTY**

Hustler Turf Equipment, does not warranty:

- Some product, components or parts not manufactured by Hustler Turf Equipment
- Repairs made by unauthorized persons

- Damage caused by use of the Hustler Turf Equipment for purposes other than those for which it was designed
- Damages caused by disasters such as fire, flood, wind, and lightening
- Damages caused by neglect, abuse, abnormal use, improper or unreasonable use, accident, negligence or misuse
- Repairs or replacement resulting from the use of unauthorized parts, accessories or attachments
- Repairs or replacement as the result if any alterations or modifications, in the determination of Hustler Turf Equipment, which adversely affects the operation, performance or durability of the equipment.
- Hustler Turf Equipment which has the serial number removed or made illegible
- Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow the product's owner's manual operating, maintenance and adjustment instructions or other operational instructions provided by Hustler Turf Equipment.
- Normal maintenance parts and service including, but not limited to, filters, fuel, lubricants, tune-up parts, belts, blades, blade sharpening, bearings, brake or steering adjustments, reels, bedknives.
- Repairs necessary due to improper fuel, contaminates in the fuel system, or failure to properly prepare the fuel system prior to any period of non-use over three months
- Damage caused by foam filled or solid filled tires.

**DISCLAIMER OF WARRANTY**

The foregoing warranties are in lieu of all other warranties, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. However, if the Hustler Turf Equipment is purchased as a consumer product, any implied warranty of merchantability or fitness for a particular purpose is limited to the duration of this limited warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**LIMITATION OF REMEDIES**

In no case shall Hustler Turf Equipment, be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability in tort, or any other legal theory.

Such damages include, but are not limited to:

- Loss of profits
- Loss of savings or revenue
- Loss of use of Hustler Turf Equipment or any associated equipment
- Cost of capital
- Cost of any substitute equipment, facilities, services or downtime
- The claims of third parties including customers, and injury to property

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

#### **TIME LIMIT**

Any action for breach of warranty must be commenced within 30 days after expiration of warranty in a non-rental application. Any action for breach of warranty must be commenced within 30 days after expiration of warranty in a rental application.

#### **NO OTHER WARRANTIES**

Unless modified in writing, signed by both parties, and approved by the President of Hustler Turf Equipment, this agreement is understood to be the complete and exclusive agreement between the parties, superseding all prior agreements, oral or written, and all other communications between the parties relating to the subject matter of this agreement. No employee of Hustler Turf Equipment, or any other party is authorized to make any warranty in addition to those made in this agreement.

#### **ALLOCATION OF RISKS**

This agreement allocates the risks of product failure between Hustler Turf Equipment, and the purchaser. This allocation is recognized by both parties and is reflected in the price of the goods.

#### **OWNER'S RESPONSIBILITY**

You must maintain your Hustler Turf Commercial Product following the maintenance procedures described in your owner's manual. Such routine maintenance, whether performed by a dealer or by you, is at your expense.

This machine like any other powered equipment is potentially dangerous unless properly operated. Any operator must be cautious and keep safety in mind at all times. Any operator, prior to using the Hustler Turf Equipment, should thoroughly familiarize himself with the owner's manual regarding operation and safety of the machine, as well as all safety warnings on the machine itself.

#### **WARRANTY REGISTRATION**

1. **Dealers must** register the unit on-line at [www.Hustlerdealer.com](http://www.Hustlerdealer.com) or by filling out the Warranty registration form, provided in the owner's packet. If using the Warranty registration form it **MUST** be completed and signed by the authorized dealer and original purchaser.
2. For validation, the completed Warranty registration form **MUST** be forwarded to Hustler Turf Equipment, within ten (10) days following date of purchase.
3. The date of purchase constitutes delivery.

# SAFETY PRECAUTIONS



This safety alert symbol is used to call attention to a message intended to provide a reasonable degree of **PERSONAL SAFETY** for operators and other persons during the normal operation and servicing of this equipment.

**DANGER** – denotes immediate hazards which **WILL** result in severe personal injury or death.

**WARNING** – denotes a hazard or unsafe practice which **COULD** result in severe personal injury or death.

This manual uses two other words to highlight information. **IMPORTANT** calls attention to special mechanical information and **NOTE:** emphasizes general information worthy of special attention.

All operators and mechanics should read this manual, and be instructed about safe operating and maintenance procedures. If the operators or mechanics cannot read and understand English, it is the owner's responsibility to explain this material to them.

**Improper use or maintenance of this equipment by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety alert • symbol, which means DANGER or WARNING - "personal safety instructions." Failure to comply with the instructions may result in personal injury or death.**

**Incorrect usage of this machine may result in severe injury. Personnel operating and maintaining it should be trained in the proper use and should read the manuals**

**completely and thoroughly before attempting to set-up, operate, adjust, or service this machine.**

The decals are designed to give the operator brief information needed in the daily operation and service of the machine. These decals are not intended to be used in place of this manual but instead are to be used as an extension of this manual. These decals should not be removed or obliterated. Replace these decals if they become unreadable.

- It is the **owner's responsibility** to make certain that the operators and mechanics read and understand this manual and all decals before operating this machine.
- It is also the **owner's responsibility** to make certain that the operators and mechanics are qualified and physically able individuals, properly trained in the operation of this equipment.
- All operators and mechanics must become familiar with the safe operation of the equipment, operator controls and safety signs.
- Never let children or untrained people operate or service the equipment. Local regulations may restrict the age of the operator.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.
- The owner should also ensure that the operator/mechanic know that they are responsible for their own safety as well as the safety of other persons within the vicinity. **Remember**, the operator is responsible for accidents or hazards occurring to other people or their property.

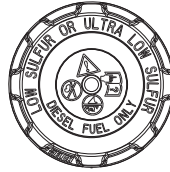
## Safety and Instruction Decals

- ▲ Specific safety warning decals are located on the equipment near the immediate areas of potential hazards. These decals should not be removed or obliterated. Replace them if they become non-readable.

The following illustrations show the various **decals** that are located on the machine. A brief explanation, for those requiring one, is shown to help the operator understand the meanings of these decals.



Read Owner's Manual and decals before attempting to operate this machine.



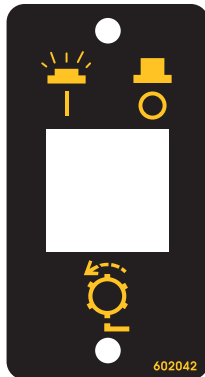
- Do not smoke while refueling.
- Do not remove the fuel tank cap or fill with engine running or while the engine is hot.
- Allow engine to cool before storing machine inside a building.
- Store away from open flame or spark.
- Clean up any fuel spills.
- Do not refuel while in enclosed trailer or other enclosed areas

Lower  
Cutting Units



Raise  
Cutting Units

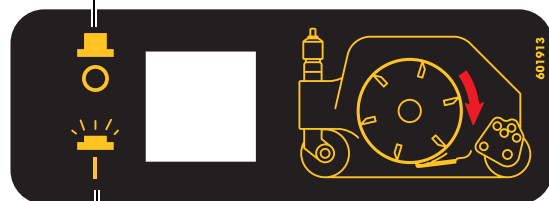
Mowing switch  
ON



Mowing switch  
OFF

- Direction of rotation of cutting blades while mowing.

Backlapping switch  
OFF

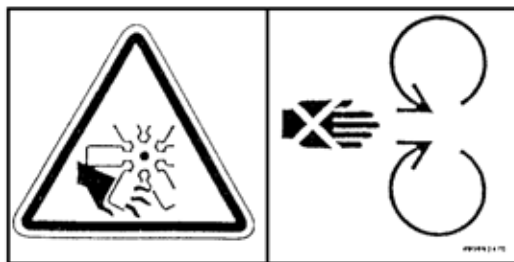


Backlapping switch  
ON

- Direction of rotation of cutting blades while backlapping.



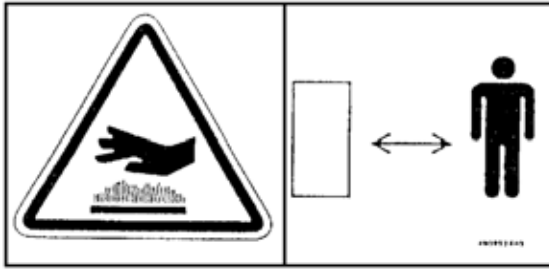
- Park brake disengaged.
- Park brake engaged.



**WARNING:**  
Rotating fan blade!

- Keep hands, feet and clothing clear of this area.
- Keep shields or covers in place while machine is in operation.





**WARNING: Hot surface!**

- Keep a safe distance from the machine.

**WARNING: Hot fluid under pressure**



- Do not open while engine is hot. Wait until the system has fully cooled to service.



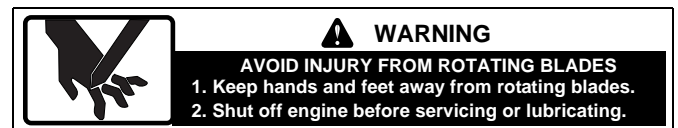
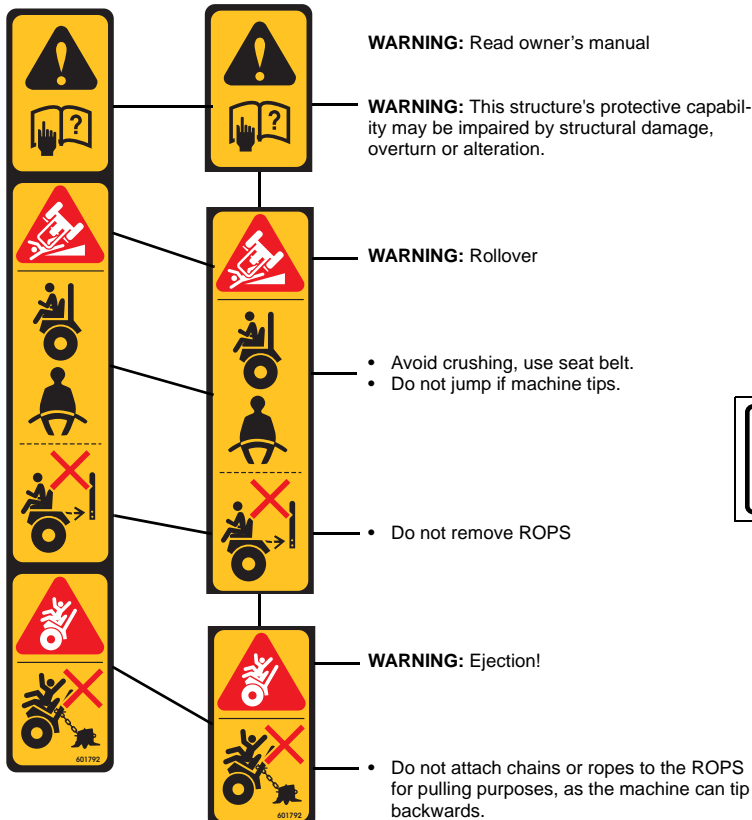
**WARNING: Hot surface!**

- Avoid skin contact with hot surface



**WARNING:**  
Fluid under pressure!

- Avoid hydraulic fluid escaping under pressure
- Hydraulic fluid escaping under pressure can penetrate skin.
- Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. Foreign fluid injected into the skin must be surgically removed within a few hours by a doctor, familiar with this form of injury, or gangrene may result.
- Before applying pressure to hydraulic system, make sure all connections are tight and all hoses and lines are in good condition.
- Relieve all pressure in the system before disconnecting or working on hydraulic lines.
- To find a leak under pressure, use a piece of cardboard or wood – never use your hands.
- To relieve all pressure in system, lower attachment and turn engine off.



**DANGER: Battery Hazards**



- Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.
- Do not allow open flame near the battery when charging.
- Avoid skin contact with battery acid.
- Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and call physician immediately. Acid will also damage clothing.

**DANGER: Battery Hazards!**



**DANGER:**  
Rotating pulleys and belts!

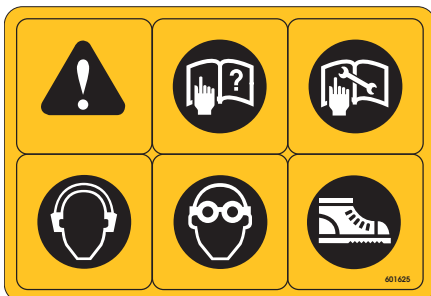
- Keep hands, feet and clothing away.
- Keep shields or covers in place while machine is in operation.



- Avoid skin contact with battery acid.
- Do not overfill battery.
- Electrolyte may overflow and damage paint, wiring or structure. When cleaning the battery, use soap and water into the battery. Be careful not to get soap and water into the battery. Use soda mixed in water to clean corrosion off the terminals.
- Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and call physician immediately. Acid will also damage clothing.
- Do not allow open flame near the battery when charging.
- Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.

**WARNING:**

Read Owner's Manual and Service Manual before attempting to operate or service this machine.

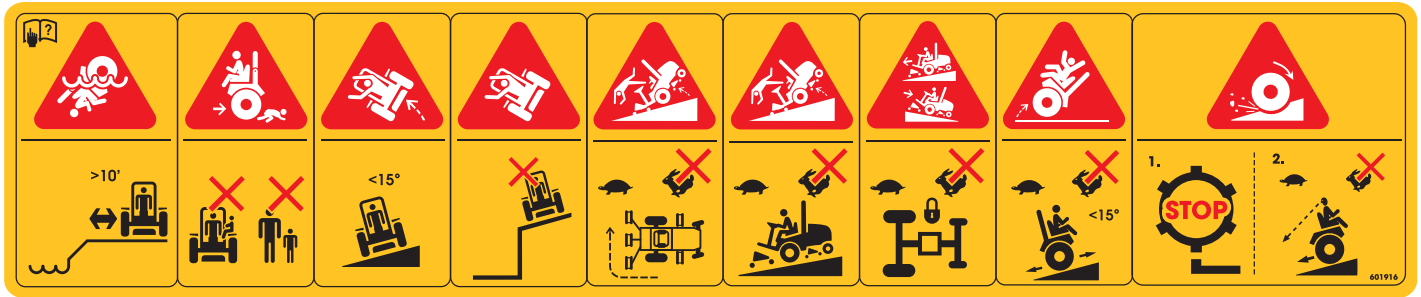


- Wear ear protection, eye protection and safety shoes when operating this equipment.

**WARNING: Rotating driveshaft!**



- Keep hands, feet and clothing clear of this area.
- Keep a safe distance from the machine.
- Keep shields or covers in place while machine is in operation.



**WARNING: Rollover!**

- Mow a safe distance (minimum of 10 feet) away from drop-off, retaining walls, drainage ditches, embankments, water, and other types of hazards to avoid a wheel dropping over the edge or to avoid the ground from breaking away.



**WARNING: Ejection!**

- Never drive the tractor at high speeds without the cutting units mounted to the tractor.
- Never push down suddenly on reverse or brake pedal while the machine is in forward motion because machine may tip forward causing loss of control.
- Wear seat belt



**WARNING: Back over!**

- Always be aware of what is behind the machine before backing up. Do not backup in reverse unless absolutely necessary. Always look down and behind before and while backing up.
- Do not carry passengers
- Always stop machine if someone enters the area.



**WARNING: Loss of traction**

- Never push down suddenly on reverse or brake pedal while the machine is in forward motion because machine may tip forward causing loss of control.
- Keep all movement on slopes slow and gradual.
- Do not make sudden changes in speed or direction.
- Keep cutting units lowered **when transporting** to improve stability.
- Lock transmission in AWD whenever operating on uneven terrain or on a slope.



**WARNING: Rollover!**

- Do not operate on slopes greater than 15 degrees.



**WARNING: Ejection!**

- While driving on slopes, always run in AWD (All wheel drive) locked position.
- Keep all movement on slopes slow and gradual.
- Never make sudden changes in speed or direction.
- Do not operate on slopes greater than 15 degrees.



**WARNING: Rollover!**

- Do not mow on slopes above a retaining wall or drop-off.



**WARNING: Ejection!**

- Lower cutting units when driving down slopes.
- Never push down suddenly on reverse or brake pedal while the machine is in forward motion because machine may tip forward causing loss of control.
- Slow down before turning.
- Wear seat belt





































**WARNING:**  
Loss of traction/control on slopes!

- Shut off cutting units

- Back slowly, using AWD mode, down the slope when loss of traction occurs.

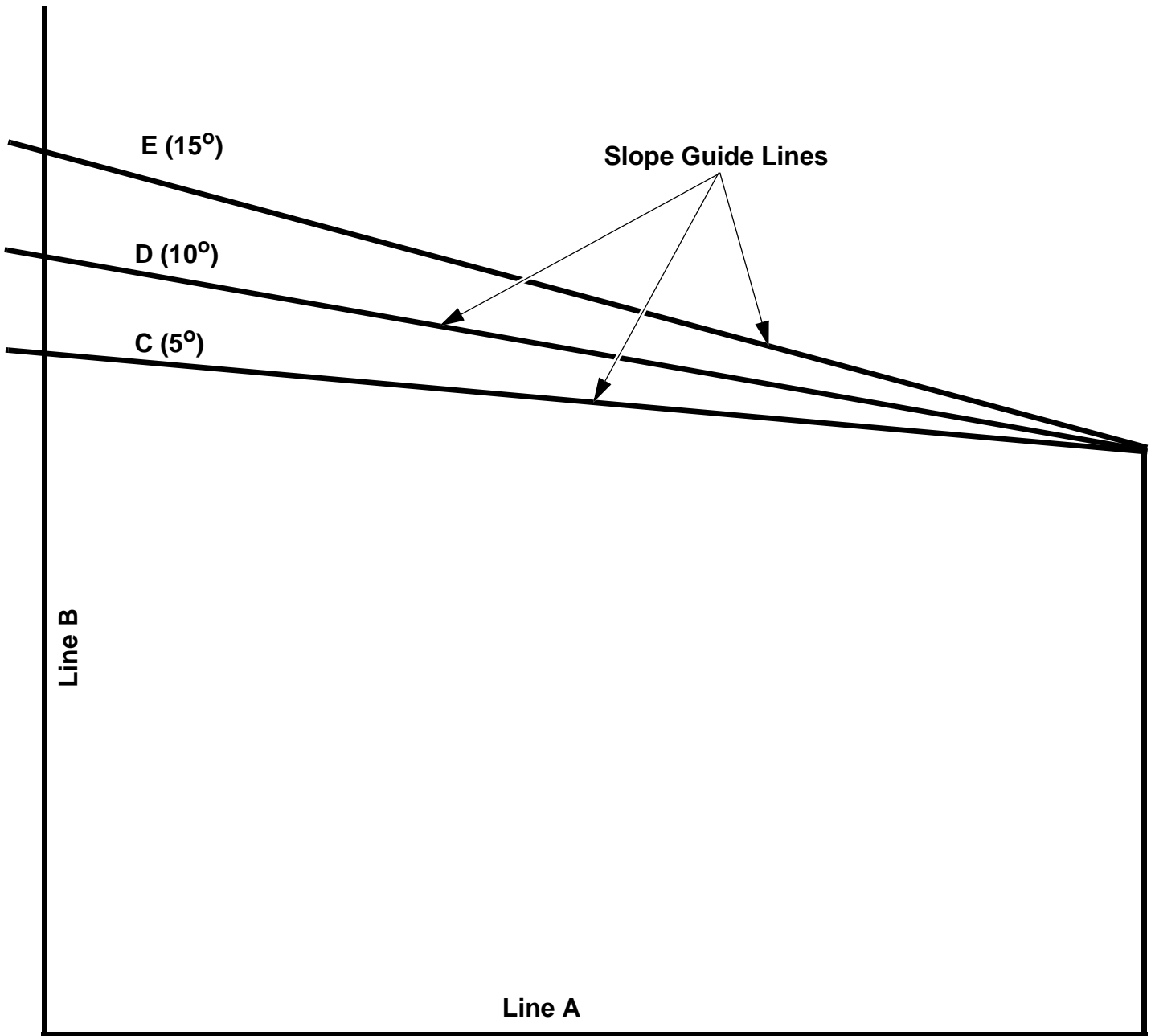
# INTERNATIONAL SYMBOLS

As a guide to the operation of your tractor, various international symbols have been used on instruments and controls. These symbols are depicted and described below.

	Hours Recorded		Neutral		Battery
	Engine Water		Diesel Fuel		Power Take-off (ON)
	Air Filter		Glow		Power Take-off (OFF)
	Engine Oil Pressure		Engine Stop		Slow
	Full Time AWD		Engine Oil		Fast
	Auto AWD		Engine Start		Control Lever Hold
	Continuously Vari-		Parking Brake		Rock Shaft (Raised)
	Increase		Lock		Rock Shaft (Lowered)
	Decrease		Release Lock		Remote Cylinder (Retracted)
	Fuel Level		Differential Lock		Remote Cylinder (Extended)
	High Range		Volume Empty		Volume Full
	Low Range				

# SLOPE GUIDE

Use this diagram when determining the degree of slope to be mowed.



1. Hold this sheet of paper in front of you. Make sure that Line A is horizontal.
2. Align Line B with a vertical surface such as pole, tree or building.
3. Fold the paper along the slope guide lines (C, D or E).
4. Align the closest slope guide line with the ground slope. This will give you a close estimation of the ground slope to be mowed.



# OPERATION

## Safe Operating Practices

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions to avoid serious injury or death.

## Operation

- ▲ Evaluate the terrain to determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer.
- ▲ Never leave a running machine unattended. Park the machine on level ground. Place park brake lever in the brake engaged position, place mower switch in the “OFF” position, lower attachments, and remove ignition switch key. Wait for engine and all moving parts to come to a complete stop before leaving operator’s seat for any reason.
- ▲ Do not change the engine governor setting or overspeed the engine. Operating the engine at excessive speed may increase the hazard of personal injury.
- ▲ Always remain seated while operating machine.
- ▲ Always keep safety shields and covers in place, except for servicing.
- ▲ Always maintain a safe distance from people and pets when mowing. Always stop machine if someone enters the area.
- ▲ Always operate machine in daylight or with adequate working lights.
- ▲ Follow daily and weekly checklists, making sure hoses are tightly secured and bolts are tightened.
- ▲ Always observe traffic laws while driving machine from one location to another. Watch for traffic when operating near or crossing roadways.
- ▲ When operating on public roads make sure to use safety lights (flashing lights, rotating beacon, etc) in conjunction with slow moving vehicle symbols on the machine, according to local regulations.
- ▲ Always be alert for hazards such as rocks, metal objects and other debris which may be thrown or entangled by reel knives. Watch out for holes or deep depressions.
- ▲ Inspect area to be mowed for hazards such as rocks, metal objects and other debris which may be thrown or entangled by reel knives. Remove these objects before mowing.
- ▲ Always inspect machine for damage after striking a foreign object. If damage is found, repair machine immediately. **Be sure to stop on level ground**, place park brake lever in the brake engaged position, place mower switch in the “OFF” position, lower cutting units, remove ignition switch key before leaving operator’s seat to inspect damage.
- ▲ Always wear adequate ear protection, such as earplugs, when operating this equipment as prolonged exposure to uncomfortable or loud noises can cause impairment or loss of hearing. Do not wear radios or music headphones while operating the machinery. Safe operation requires your full attention.
- ▲ Do not operate the equipment while wearing sandals, tennis shoes, sneakers, shorts or any type of loose fitting clothing. Do not use a towel as a headband or neck wrap and do not hang towel from the waist. Long hair, loose clothing or jewelry may get tangled in moving parts. Always wear long pants, safety glasses, ear protection and safety shoes when operating this machine.
- ▲ Always be aware of what is behind the machine before backing up. Never mow in reverse. Always stop cutting units and look down and behind before and while backing up.
- ▲ Never push down suddenly on brake pedal while the machine is in forward motion because machine may tip forward causing loss of control.
- ▲ Never push down suddenly on the HST reverse pedal while the machine is in forward motion because machine may tip forward causing loss of control.
- ▲ Never operate a poorly maintained machine.
- ▲ Never attempt high speed maneuvering, especially in crowded or congested areas.
- ▲ Never allow persons to operate this machine without proper instruction or allow children to operate machine. Allow only responsible adults who are familiar with these instructions and have been trained to operate this machine.
- ▲ Never put hands or feet under any part of the machine while it is running.
- ▲ Never carry passengers. They can be stuck by foreign objects or fall off machine and be seriously injured. They can interfere with the safe operation of the machine.
- ▲ Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator.
- ▲ Always disengage the cutting units and wait for them to stop before crossing gravel drives, walks or roads. Always yield the right-of-way.
- ▲ Always keep clear of the cutting units and attachments during their operation.
- ▲ On multi-cylinder/multi-reel machines, take care as rotating one cylinder/reel can cause other cylinders/reels to rotate.
- ▲ Use a stick or similar instrument to clean under the cutting unit making sure that no part of the body, especially arms and hands are under cutting unit.
- ▲ Do not use any unauthorized attachment or modify the machine.
- ▲ Turn off cutting units when not mowing.
- ▲ Slow down before turning.
- ▲ Do not operate the machine if you are fatigued, sick or while under the influence of alcohol or drugs, or under 18 years old. Local regulations may restrict the age of the operator.
- ▲ Exercise caution when loading or unloading the machine onto a trailer or truck.

- ▲ Always wear safety goggles or safety glasses with side shields when operating the mower.
- ▲ Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the mower safely enough to protect themselves and others from serious injury.
- ▲ Follow the manufacturer's recommendation for wheel weights or counterweights.
- ▲ If any attachment or additional weight is mounted on the front of the unit, any rapid movement of the HST pedals in either direction could result in a reaction of the tractor that can cause serious injury.
- ▲ **Clean flammable material from machine. Prevent fires by keeping cutting units, engine compartment, exhaust area, battery, fuel line, fuel tank and operator's station clean of accumulated trash, grass clippings, and other debris. Always clean up spilled fuel and oil.**
- ▲ **Never cover the machine with a tarp or cover of some type until the engine and muffler have cooled.**
- ▲ **Park the machine on level ground.** Place park brake lever in the brake engaged position, place mower switch in the "OFF" position, lower attachments, remove ignition switch key and wait for engine and all moving parts to come to a complete stop before removing grass wound around the reel knives.

### Using a ramp

- ▲ Use extreme caution when loading and unloading a unit onto a truck or trailer with a ramp.
- ▲ Use only a single, full width ramp; do not use individual ramps for each side of the unit. Having a full width ramp provides a surface for the tractor frame to contact if the unit starts to tip backwards. It also reduces the risk of a wheel going off and the machine tipping over.
- ▲ Do not exceed a 15 degree angle between the ramp and the ground or between the ramp and the trailer or truck.
- ▲ When on a ramp avoid sudden acceleration

### Slope Operation

Slopes are a major factor in loss-of-control and tip-over accidents, which can result in severe injury or death. All slopes require extra caution. **REMINDER: Only operate on slopes of 15 degrees or less.**

- ▲ Use extreme caution when operating on slopes.
  - Be extremely careful changing directions on a slope. Slow down.
  - Do not operate where the machine could slip or tip.
  - Turn slowly
  - Turn on the most level part of the slope
  - While driving on slopes, always run in AWD (All wheel drive) **locked position.**
  - Keep all movement on slopes slow and gradual.
  - Never make sudden changes in speed or direction.
  - If it becomes necessary to turn downhill, turn slowly and gradually. Apply service brakes when going downhill to keep forward speed slow and to maintain control of the machine.
- ▲ Do not park on slopes! Park the machine on level ground only.

- ▲ Watch for holes, ruts, bumps, rocks or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- ▲ Remove obstacles such as rocks, tree limbs, etc.
- ▲ Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction.
- ▲ Avoid starting and stopping on a slope. If tires lose traction, disengage the cutting units and proceed slowly straight down the slope.
- ▲ Do not operate on slopes with the transmission selector lever in the neutral position.
- ▲ Mow a safe distance (minimum of 10 feet) away from drop-offs, retaining walls, drainage ditches, embankments, water, and other types of hazards to avoid a wheel dropping over the edge or to avoid the ground from breaking away. This will reduce the risk of the machine suddenly rolling over causing serious injury or death.
- ▲ Use a walk behind, push mower or hand-held trimmer on slopes and near drop-offs, retaining walls, drainage ditches, embankments and water to avoid machine roll-over and serious injury or death.
- ▲ Do not mow on wet grass. Reduced traction could cause sliding and loss of steering control.
- ▲ Never make sudden starts, stops, turns, or reverse direction, especially when maneuvering on slopes. The steering is designed for sensitive response. Rapid movement of the steering wheel or HST foot pedals in either direction could result in a reaction of the tractor that can cause serious injury.
- ▲ Never stop suddenly while going down slopes. This action may result in a reaction of the tractor that can cause serious physical injury.
- ▲ The Hustler mower is capable of operating horizontally (traverse) on slopes up to 15 degrees. When operating on slopes up to 15 degrees, be aware of any conditions that may cause the tractor drive tires to lose traction resulting in a possible loss of control of the machine. An operator should not operate on a slope until he is thoroughly familiar with the equipment.

Do not operate on slopes greater than 15 degrees.

Refer to Slope Guide, page 2-7, when determining the degree of slope to be mowed.

It is strongly recommended that the operator drive the machine off of the slope, using extreme caution, if any sign of loss of traction is detected. Wait until the condition that caused the problem is resolved before attempting to operate on the slope again.

Terrain conditions can affect traction resulting in possible loss of control of the machine. Some of the conditions to be aware of are:

1. Wet terrain
2. Depressions in the ground; i.e. holes, ruts, washouts
3. Mounds of dirt
4. Soil type; i.e. sand, loose dirt, gravel, clay
5. Grass type, density, and height
6. Extremely dry conditions of grass
7. Tire pressure

The attachments mounted to the tractor will also affect the way it handles on a slope. Be aware that each attachment's characteristics vary.



Do not tow on slopes. The weight of the towed equipment may cause loss of traction and loss of steering control.

Another consideration to safe mowing on slopes is to be aware of what is located at the bottom of the slope. Extreme caution should be used when there is a hazard located at the bottom of the slope. Some examples are:

1. Water; i.e. lake, river
2. Cliffs, retaining walls
3. Roads, highways
4. Buildings
5. Rocks

These are just a few examples of situations when caution must be used when operating on a slope. There are many other possibilities too numerous to mention. Just remember to always exercise extreme caution when operating on any slope.

- ▲ The ROPS will minimize chance of injury or death from rollover. Seat belt **must** be fastened while operating a machine equipped with **ROPS**.

## Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. Never assume that children will remain where you last saw them.

- ▲ Never leave machine unattended with ignition key in switch, especially with children present.
- ▲ Children or bystanders may be injured if they move or attempt to operate the tractor while it is unattended. Always disengage mower switch, engage park brake, stop tractor engine, and remove ignition key when leaving operator's seat.
- ▲ Keep children out of the mowing area and under the watchful care of a responsible adult other than the operator.
- ▲ Be alert and turn the machine off if children enter the area.
- ▲ Turn off cutting units before backing up. Before and while backing, look behind and down for small children.
- ▲ Never carry children, even with the cutting units off. They may fall off and be seriously injured or interfere with safe machine operation. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
- ▲ Never allow children to operate the machine.
- ▲ Use care when approaching blind corners, shrubs, trees, the end of a fence or other objects that may obscure vision.
- ▲ Never allow children or others in or on towed equipment.

## Controls & Instrumentation

### Instrument Panel

- A. **Electronic hour meter (Figure 3-1)** — Registers 1/10 hour increments up to 9,999.9 total hours. Connected to the ignition switch, the meter records the accumulative time while the ignition key is switched to the RUN position.

- B. **Temperature gauge and alarm (Figure 3-1)** — When the needle is in the middle area, the engine is at its normal operating temperature. When the needle reaches the “H” side of the gauge it indicates the engine coolant has reached an unsafe temperature. If this occurs, shut down the machine as soon as possible when safe to do so. Never risk continued operation; high temperatures can severely damage the engine.

The coolant temperature fluctuates depending on ambient temperatures and working loads. If the needle is at the “H” side during operation, the overheat alarm buzzer sounds.

- C. **Fuel gauge (Figure 3-1)** — This gauge indicates the amount of fuel in the tank.
- D. **Glo-plug warning light (Fig. 3-1)** — Comes on when turning the key switch to the “HEAT” position or “START” position. This light will stay on for approximately 5 seconds in the “HEAT” Position.

- E. **Oil pressure warning light and alarm (Fig. 3-1)** — This light comes on when the ignition switch is placed in the “RUN” position and stays lit until the engine is running and a safe oil pressure is developed. If light comes on during operation, shut engine off immediately and locate and correct the problem when safe to do so. When oil pressure falls below 4.25 psi (29.4 kPa), the alarm buzzer will sound. **IMPORTANT:** The operator must occasionally check the crankcase for proper oil level.

**NOTE:** The alarm buzzer will sound when engine stops with key left inserted at “RUN” position. In order to stop the alarm buzzer, return the key to “STOP” position.

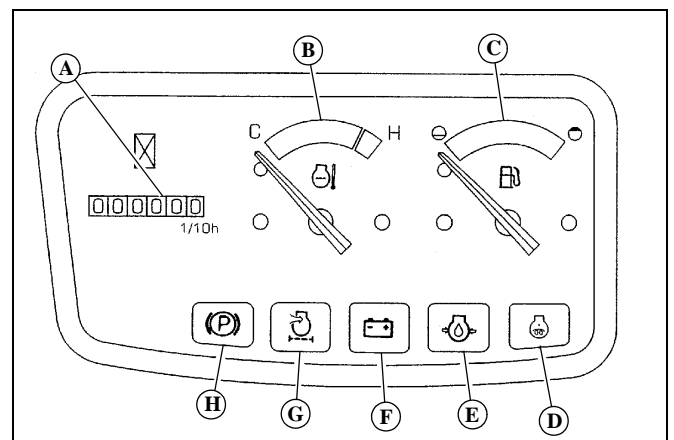


Figure 3-1

- F. **Charge indicator warning light (Figure 3-1)** — This light comes on when the ignition switch is placed in the “RUN” position and stays lit until the engine is running. If it remains lit the charging system is not operating normally. Investigate the cause as soon as possible, otherwise the battery will fully discharge.
- G. **Air cleaner restriction warning light (Figure 3-1)** — When the air cleaner element is clogged by foreign substances, such as dust, and clean air is restricted to the engine, this light will illuminate. Refer to the *Engine Air Filter* section of this manual for detailed information.
- H. **Parking brake warning light (Figure 3-1)** — This light

comes on when the ignition switch is placed in the “RUN” position and the parking brake is applied.

## Switches

- A. **Ignition switch (Figure 3-2)** — A four position switch: off, run, pre-heat and start. With key inserted, rotate it clockwise to “PRE-HEAT” position and the “START” position; release key when engine starts, and switch will automatically return to the “RUN” position. Turning the key to the “RUN” position activates the warning lights and instruments.

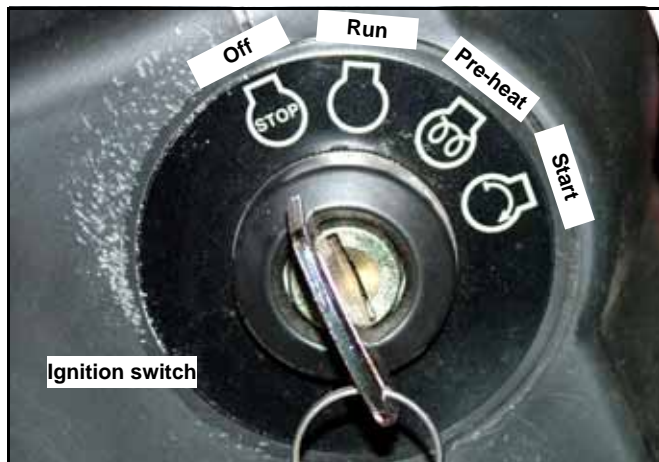


Figure 3-2

- B. **Head light switch (Figure 3-3)** — This switch is located on the steering column. Push the switch in to turn on the head lights. The head light will not come on unless the ignition switch is in the run position.

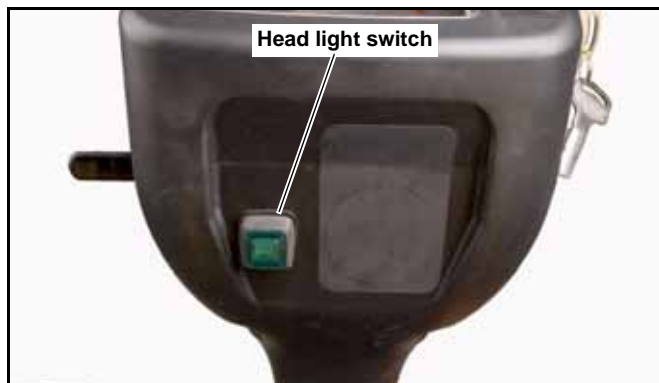


Figure 3-3

## Controls

- A. **Throttle control lever (Figure 3-4)** — A cable is linked to engine throttle for controlling engine speed. Move lever forward to increase engine rpm, move lever rearward to decrease engine rpm. **NOTE:** Always operate the cutting units at full engine RPM.

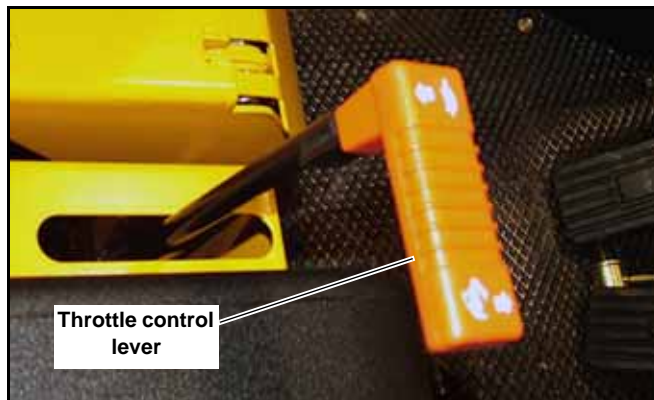


Figure 3-4



**WARNING:** Do not park on a slope! If necessary to park on a slope, fully engage the park brake and be sure to block or chock the wheels to prevent accidental rolling of the machine.

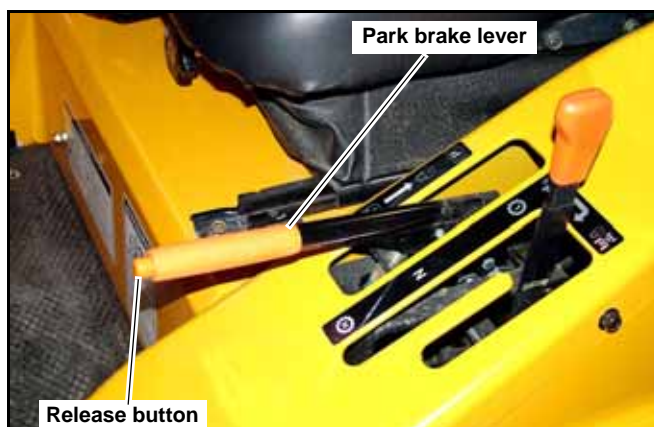


Figure 3-5

## Transmission controls

- D. **Hydrostatic transmission (HST) foot pedals (Figure 3-6)** — The ground speed of the unit is continuously variable from zero to full rated speed in each range. The ground speed is controlled by these pedals. Depress the forward travel pedal to progressively increase forward speed. For reverse travel, depress the reverse travel pedal. **NOTE:** These pedals must be in neutral (not depressed) to start the engine.

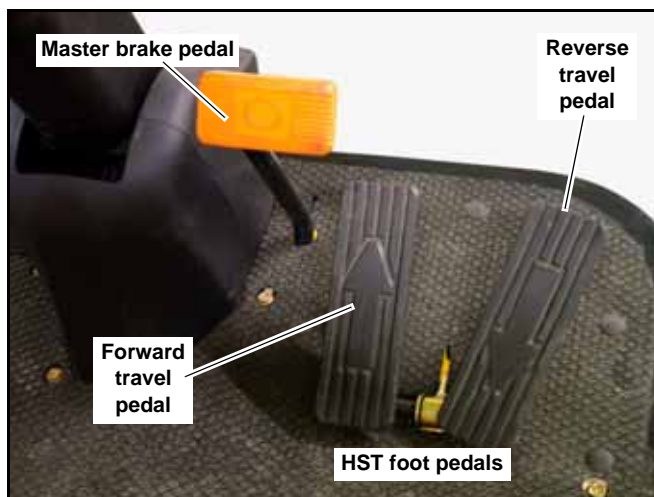


Figure 3-6

## Brake Controls

- B. **Master brake pedal (Figure 3-6)** — Depress the master brake pedal to stop the unit.
- C. **Park brake (Figure 3-5)** — The park brake should be applied whenever the tractor is parked or when the operator is out of the seat. To set the park brake, pull up on the park brake lever. To release the park brake, press on the brake lever release button while pushing down on the park brake lever.

- E. Transmission operation (Figure 3-7 & Figure 3-8) —** The transmission in the tractor provides several driving modes depending on the terrain and the traction drive requirements. The transmission shifting lever should **only be shifted into different positions when the HST foot pedals are in the neutral position and tractor is stopped.**

The transmission in this tractor has the following drive modes:

1. **Automatic All Wheel Drive (AWD)** - In this mode, the transmission will drive only the front axle when no wheel slip is sensed. If wheel slip is sensed, it will automatically apply power to the rear axle to increase traction. This mode is active when the lever is in the slot closest to the seat. In this mode, the operator can select the following positions:

**Low (L)** when the lever is pulled to the rear position. **Low should be used for mowing.**

**Neutral (N)** when the lever is at the center position.

**High (H)** when the lever is pushed all the way forward.

2. **Locked AWD** - In this mode, power is applied to the front and rear axles at all times. This mode is active when the shifting lever is in the far slot from the seat and pushed forward. In locked AWD, the transmission is only allowed to run in low (L).

**When driving on slopes, always operate in the Locked AWD mode.**

**CAUTION:** The use of Locked AWD will cause the rear tires to scuff and tear the turf on full lock turns.

3. **Neutral (N)** - In this mode the unit may be moved or towed without running the engine. There is no additional step necessary to be able to roll the unit freely.

When moving the unit with the transmission in the Neutral (N) mode be sure to keep the unit under control. There is no dynamic braking or other speed control except for the parking or service brake pedal. The unit may be towed in this mode provided the axles are filled to the proper level with lubricant but speed should be limited to maximum 2 mph and distance to 1 mile.

### Hydraulic lift system controls

- F. Lift control lever (Figure 3-9) —** This lever is used to lift or lower the cutting units. Pulling back on the lever raises the cutting units. Pushing forward on the lever lowers the cutting units

### Cutting unit operation controls

This tractor is equipped with an electronic controller which controls the function of the cutting switch and backlapping switch. It works in conjunction with the lift lever and the cutting unit position (height) sensors.

If a problem is detected by the controller, the mow switch light will blink. Contact authorized service if this occurs.

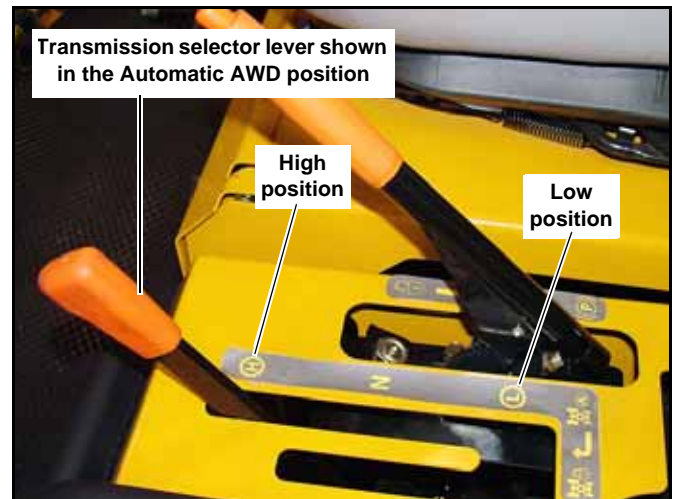


Figure 3-7



Figure 3-8

- G. Mowing switch (Figure 3-10) —** This switch is used to start and stop the cutting units. When the mow switch is pressed down and the switch light comes on, the mowing circuit is active. The reels will begin rotating when the cutting units are lowered to the ground into cutting position. If the mow switch is pressed again, the switch light will turn off, and the reels will shut off. If the cutting units are in the mowing position (lowered to the ground) and the mow switch is turned on, the reels will only start after the lift/lower lever is pushed to the lower position and released. When mowing the operator may move the lift/lower lever to lift and release it to cause the reels to come up to a level position off the ground and turn off. Pushing the lift/lower lever to lower and releasing it will cause the units to lower and turn on again. The reels may be lifted all the way to the transport position (with the mow switch activated) by holding the lift/lower lever in the lift position. In order to begin mowing again the lever will have to be held in the lower position until the reels have reached the ground. The one touch lift/lower function will again be activated

If a problem or error is detected in the controller, the mow switch light will blink. Contact authorized service if this occurs.

- H. Backlapping switch (Figure 3-9) —** This switch is used to run the reels in the backlapping direction for reel and bedknife maintenance. The reels should be lowered to



the ground in preparation for backlapping. When the backlapping switch is pressed down, the switch will light up and the backlapping circuit is activated. When the lift/lower lever is moved to the lower position and released the reels will begin to rotate in the opposite direction from mowing. Pressing the backlap switch again turns the backlapping off. Refer to the *Backlapping the cutting units* section for detailed backlapping procedures.



**WARNING:** Do not press the mowing switch and backlapping switch at the same time.

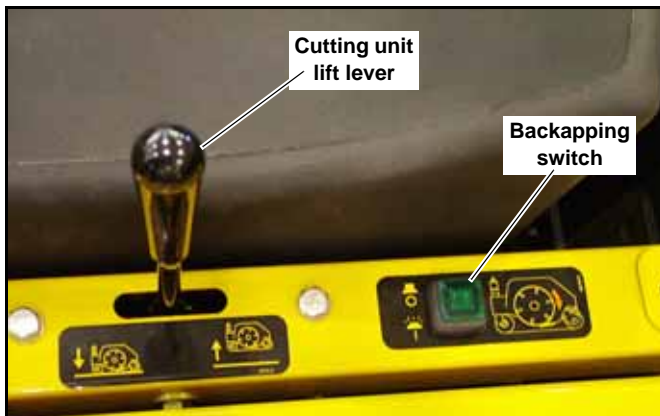


Figure 3-9

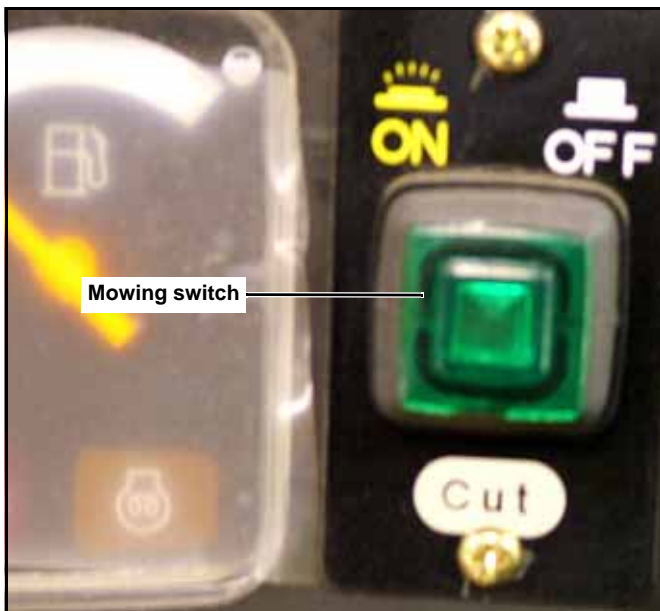


Figure 3-10

### Seat adjustment

The seat can be adjusted four different ways to obtain the most comfortable position:

1. Back angle Figure 3-12
2. Forward and rearward travel Figure 3-11
3. Weight Figure 3-11
4. Lumbar Figure 3-13

### Steering wheel adjustment

The 7500/7700 is equipped with an adjustable steering wheel which can telescope and tilt.

To telescope the wheel, turn the wheel hub to the left and raise

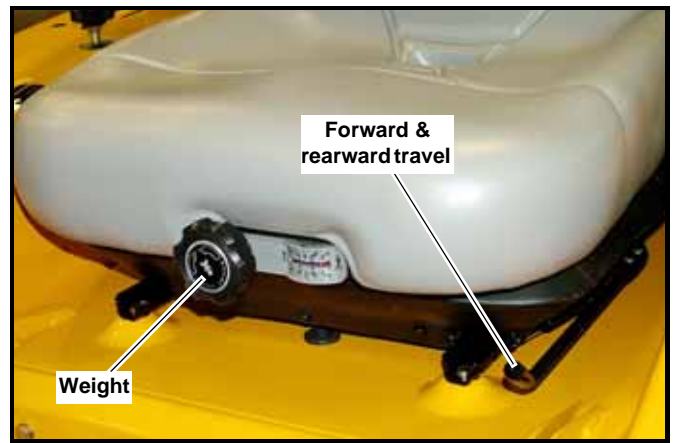


Figure 3-11



Figure 3-12



Figure 3-13

or lower the steering wheel to the desired height. Then turn the hub to the right to lock it into position. Figure 3-14 **NOTE:** When locking the hub into position, do not overtighten.

To tilt the wheel, pull up on the lever and move the steering wheel fore or aft the desired position. If the wheel is not held in position when the lever is raised, the steering wheel will spring to its most forward position. Use this feature to gain additional clearance when mounting and dismounting the tractor. Figure 3-15



Figure 3-14



Figure 3-15

## Safety interlock system

The tractor is equipped with a safety interlock system consisting of the brake switch, seat switch, mowing switch and backlapping switch.

**Check tractor safety interlock system daily, prior to operation.** This system is an important tractor safety feature. It should be repaired immediately if it malfunctions. The machine incorporates a separate seat switch **which will stop the tractor engine when the operator is unseated for any reason while the tractor is operating. This is a safety feature designed to prevent runaway or accidental entanglement.**

### Safety interlock system:

#### To inspect the safety interlock system:

1. The tractor must be parked on level ground clear of any obstruction or bystanders and the tractor shall NOT be allowed to roll when instructed to release the parking brake in the following instructions.
2. The operator must be sitting on the seat when testing the seat switch.
3. Fully engage the park brake.
4. Start the engine and allow it to warm up to operating

temperature.

5. The traction drive (HST) pedals must remain in then neutral position for steps 6 thru 11.
6. With the mowing and backlapping switches both OFF, slowly raise off the seat. **The engine should continue to run in this condition. Never leave the tractor unattended when it is running.**
7. With the operator sitting in the seat and with the mowing and backlapping switches both OFF, disengage the park brake. Slowly raise off the seat. **The engine should stop.**
8. Fully engage the park brake. Turn on the backlapping switch (the cutting switch should be off.) Slowly raise off the seat. **The engine should continue to run as well as the reels shall continue to rotate in the backlapping mode.**
9. Disengage the park brake. Turn on the backlapping switch (the cutting switch should be off.) Slowly raise off the seat. **The engine should stop.**
10. Fully engage the park brake. Turn on the cutting switch (the backlapping switch should be off.) Slowly raise off the seat. **The engine should stop.**
11. Disengage the park brake. Turn on the cutting switch (the backlapping switch should be off.) Slowly raise off the seat. **The engine should stop.**

**IMPORTANT:** For any of the above conditions, if the engine fails to stop as described when the operator is out of the seat, the seat switch circuit is not operating properly, and the problem must be determined by a qualified technician. **Do not** operate the tractor until the problem is fixed and all of the steps above are met.

12. This step is to test the HST (transmission) neutral switch proper function. The operator shall be seated with seat belt on. Engage the park brake 2 or 3 ratchet clicks into the park brake position (the park brake will be lightly set.) Slowly and lightly press the forward HST pedal. The tractor will creep forward a small amount, and **the engine should stop.** If the engine fails to stop, immediately remove your foot from the forward HST pedal and allow the tractor to stop. Turn off the engine. The HST switch is not functioning correctly and must be checked by a qualified technician. **DO NOT** operate the tractor until the problem is identified and fixed.



**WARNING:** The safety interlock system should always function per the above steps. If it does not function properly, it should be corrected immediately. Do not operate machine without identifying and fixing the problem. Do not operate the machine without a properly functioning seat switch.

### Cutting unit stop system:

While operating the cutting units, the cutting unit drives will disengage automatically when the equipment is raised by the lift control lever.

## Engine starting

The 7500/7700 safety start interlock system is designed to protect the operator and others from accidental injury due to

unintentional engine starting. The engine can be started with the operator either on or off the seat when the following conditions are met:

- A. HST foot pedals are released (neutral position)
- B. Mowing switch is in the disengaged “OFF” position
- C. Backlapping switch is in the disengaged “OFF” position.
- D. The master brake pedal is depressed or park brake lever is engaged.

**NOTE:** For safe operation the cutting units must be lowered prior to starting the engine.



**WARNING:** Never attempt to start the engine while standing beside the unit. Always sit in the seat when starting the engine.

**IMPORTANT:** Do not engage the starting motor continuously for more than 30 seconds, doing so may cause starting motor failure. An interval of at least two minutes should be allowed between such cranking periods to protect the starter from overheating and burn-out.



**WARNING:** The safety interlock system must **not** be disconnected or bypassed. Doing so could cause the machine to operate unexpectedly resulting in personal injury.

**NOTE:** The operator’s seat is equipped with a separate safety switch. If for any reason the operator should become unseated when the brake is disengaged or the cutting units are engaged the engine will stop.

The following steps are the correct procedures for starting the engine. If difficulty is encountered, contact the Hustler Dealer in your area.

**NOTICE:** Ether, or other starting fluids, must never be used as a starting aid with this engine. Warranty will be denied when engine damage results from such use.

### Warm weather starting

To start a cold engine in warm weather or to start an engine that is warm;

1. Depress the master brake pedal fully and disengage the mowing switch and backlapping switch, move transmission selector lever to the neutral position.
2. Move the throttle lever forward to a near half open position.
3. Turn the key switch to the “START” position. When the engine starts, release the key. Check to be sure the warning lights go out. If the engine fails to start after cranking for approximately 10 seconds, refer to the following *Cold Weather Starting* information.
4. Allow the engine to idle a few minutes before advancing the throttle and/or engaging the cutting units. In cold weather, run the engine at half throttle for a few minutes to allow engine oil and transmission oil to warm-up.

### Cold weather starting

If the engine fails to start using the preceding warm weather starting procedure or when starting the engine in cold weather;

1. Depress master brake pedal fully and move the transmission selector lever to the neutral position.

2. Move the throttle lever forward to the full-open position.
3. Turn the key switch to “HEAT” to preheat the precombustion chamber and wait until the glow plug indicator warning light on the instrument panel goes out (approximately 5 seconds).
4. Turn the key switch to the “START” position. When the engine starts, release the key. Check to be sure the warning lights go out.
5. Once engine is running back the throttle off to the 1/2 throttle position.

**IMPORTANT:** In cold weather below 23 degrees F (5 degrees C) start the engine after holding the key switch to the “HEAT” position for approximately 10 seconds even if the glow plug indicator warning light has gone out.

### Starting the engine with jumper cables



**WARNING:** Start engine only from the operator’s seat.



**WARNING:** If ice is present or the battery is cracked, **do not attempt to jump start the vehicle.**

If it is necessary to use jumper cables to start the engine, follow the instructions below.

1. Bring helper vehicle with a battery of the same voltage as disabled machine within easy cable reach.— **The vehicles must not touch.**
2. Shield eyes.
3. Connect one end of the jumper cable to the battery positive (+) terminal and the other to the auxiliary battery positive (+) terminal. Connect one end of the other cable first to the auxiliary battery (-) negative terminal, and the other end to the mower frame. Follow the starting procedures above after the jumper cables are connected as instructed.
4. After engine has started, disconnect the negative (black) jumper cable before disconnecting the positive (red) jumper cable(s).



**WARNING:** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.



**WARNING:** Change batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from the battery. Wear protective clothing and use insulated tools.



**WARNING:** Avoid skin and clothing contact with battery acid.

Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and

call physician immediately. Acid will also damage clothing.

Do not drink the battery electrolyte.

Do not allow open flame near the battery when charging.

Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.

Do not overfill battery.

Electrolyte may overflow and damage paint, wiring or structure.

When cleaning the battery, use soap and water. Be careful not to get soap and water into the battery. Clean the battery terminals with a solution of four parts water and one part baking soda when they become corroded.



**WARNING:** Shorts caused by battery terminals or metal tools touching metal tractor components can cause sparks. Sparks can cause a battery gas explosion which will result in personal injury.

Prevent the battery terminals from touching any metal tractor parts when removing or installing the battery.

Do not allow metal tools to short between the battery terminals and metal tractor parts.



**WARNING:** Incorrect battery cable routing could cause damage to the tractor and battery cables. This can cause sparks which can cause a battery gas explosion which will result in personal injury.

Always **disconnect** the negative (black) battery cable before disconnecting the positive (red) cable.



**WARNING:** Always **connect** the positive (red) battery cable before connecting the negative (black) cable.

### Engine warm up

In cold weather, run the engine at half throttle for a few minutes to allow engine oil and transmission oil to warm up.



**WARNING:** Never leave the machine running unattended.

### Stopping the engine



**WARNING:** Always apply the park brake when leaving the seat. Wait for engine and all moving parts to come to a complete stop before leaving operator's seat for any reason.

Stopping the engine should be done according to the following procedures;

1. Pull the throttle lever fully rearward.
2. Release the HST foot pedals.
3. Engage the parking brake.
4. Place the transmission selector lever in the "N" position.
5. Lower the cutting units.

6. Turn the key start switch to the "OFF" position.

7. Remove the key.

**IMPORTANT:** Failure to turn the key start switch to the "OFF" position, after the engine stops, will allow the warning lights to remain on, causing the battery to discharge.

**IMPORTANT:** Do not stop the engine immediately after hard or extended operation. Keep the engine running at slow idle for about 2 minutes to allow engine to cool down.

## Operating the hydraulic system

### Hydrostatic transmission

The hydrostatic transmission is controlled by the HST foot pedals and transmission selector lever. Figure 3-6, Figure 3-7 & Figure 3-8

When operating the transmission selector lever, place the HST foot pedals in the neutral position. If it is difficult to engage, slightly depress the Forward or Reverse foot pedal for smooth engagement.

**Never engage or disengage the transmission selector lever when the unit is in motion.**

With the transmission selector lever in "H" range (Figure 3-7), ground speed can be varied from zero to maximum by depressing the forward or reverse travel pedal.

To stop the unit, release the pedal gradually (except in an emergency). When released, the pedal returns to the Neutral position automatically, stopping the unit. Sudden release can result in an abrupt, and possibly dangerous stop.

To stop, firmly depress the master brake pedal.

### Automatic or Locked All Wheel Drive (AWD)

The transmission selector lever is used to select Automatic All-Wheel Drive or Locked All-Wheel Drive.

When the transmission selector lever is located in the inside slot, the tractor will run in **Automatic AWD mode**. Figure 3-7

When the lever is placed in the outer slot, the mower will run in **Locked AWD mode and low range**. Figure 3-8

When in motion, always bring the unit to a complete stop before moving the transmission selector lever.

Automatic All Wheel Drive (AWD) means that the four-wheel drive line is engaged automatically when the front wheels start to slip, but, in normal mowing, reverts to 2WD, this provides sharp and smooth turns without damaging turf.

Locked All-Wheel Drive should be used when additional traction is required while operating in loose soil, wet, slippery conditions or slopes.

The steering (rear) axle will not be powered in the reverse direction when mower is operating in Automatic AWD.

### Operating the hydraulic lift system

The hydraulic lifting system for the cutting units works in two different modes:

1. When the cutting switch is OFF, the lift system is in manual mode.
  - a. To raise the cutting units, the operator must pull back on the lift lever continuing to pull back until the desired height is reached, or until the cutting units have reached the maximum lift height.
  - b. To lower the cutting units, the lever is pushed forward and will continue to lower the cutting units until they reach ground level, or until the desired

height is reached and the operator lets loose of the lever. When the operator lets loose of the lever in either the rearward (raise) or forward (lower) positions, the lever will automatically return to the centered position and the cutting units will stop at that height.

2. When the cutting switch is ON, the lift system is in automatic mode. This feature assists the operator in lowering and raising the cutting units and does not require the operator to hold the lever for extended periods of time.
  - a. When the operator wants to lower the cutting units, the lever is pushed forward (or 'bumped') momentarily and allowed to return back to the centered position. This action automatically lowers the cutting units all the way to ground level.
  - b. To lift the cutting assemblies, the operator pulls (bumps) the lever back momentarily and the reel assemblies are raised automatically to a height preset by the controller which is approximately 1/2 of the maximum height capable in the manual mode. (If it is desired that the cutting units raise higher, the operator can pull the lift lever to raise the cutting units higher.)

**IMPORTANT:** Do not press the mowing switch and backlapping switch at the same time.



**WARNING:** Make sure the area is clear of people before raising or lowering equipment.



**WARNING:** Always lower the cutting units before stopping the machine.

## Cutting unit operation

1. Start the engine
2. Move the machine to the mowing site.
3. Shift the transmission selector lever to Low (L) speed.
4. Advance the throttle to full throttle (all the way forward).
5. Push the mowing switch to activate the reel knives.
6. Push the lift control lever forward to lower the cutting units. When the cutting units approach the ground, the reel knives will begin to rotate.
7. Push down on the forward transmission pedal and drive the machine forward.

**IMPORTANT:** Always keep the highest rotating speed of the reel knives for smooth cutting operation. By setting the throttle lever to the highest engine speed position, highest speed of the reel knives and the highest output of the engine can be obtained. Select the operating speed of the machine depending on the grass condition, finish, experience of the operator and other conditions. Avoid mowing operation under overload.
8. Upon completion of mowing, pull back on the lift control lever to raise the cutting units. When mowing, touching the lift lever back to the lift position and releasing it will cause the units to lift to the cross cut position and turn off.

**NOTE:** Be sure to turn off the mowing switch.



**WARNING:** While the reel knives are rotating, never bring your hands or feet close to the cutting unit.

## Power Steering



**WARNING:** While the engine is running, the steering wheel is very sensitive. Be careful when traveling at a high speed. Otherwise, an accident may be occur.

The power steering function is active only while the engine is running. When the engine speed is low, the steering may be a little heavy. This is not a problem.

**IMPORTANT:** When the steering wheel is fully turned, the relief valve is activated and a signal sound is generated. It may be ignored for a short time but operation should not be continued while this sound is generated.

**IMPORTANT:** Do not rotate the steering wheel when the vehicle is stopped unless it is required to do so as a tire or rim may become damaged.

## ROPS

### (Roll Over Protective Structure)

A Roll Over Protective Structure (ROPS) and seat belt are standard equipment. Do not remove the ROPS and seat belt. ROPS when used with seat belt is effective in reducing injuries during unit overturn accidents. Overturning the unit without ROPS can result in serious injury or death.

**NOTE:** Inspect the ROPS after the first 20 hours of operation. Following the initial inspection, check the ROPS after every 500 hours of operation or every six months, whichever comes first. Figure 3-16

1. Check the torque of the ROPS mounting bolts. Tighten the bolts to the correct torque of 72 ft.-lbs. (97 Nm) if necessary. Figure 3-17
2. Inspect the operator's seat and the mounting parts for the seat belt. Tighten the bolts to the correct torque of 48 ft.-lbs. (65.0 Nm) if necessary and replace parts that show wear or damage.



**WARNING:** Always wear your seat belt unless the tractor is not equipped with a ROPS or safety cab. In this case, the seat belt should never be worn.



**WARNING:** Do not attach chains or ropes to the ROPS for pulling purposes, as the machine can tip backwards.

Inspect the area to be mowed for proper overhead clearance (tree limbs, guy wires, doorways, etc).

**Do not** contact any overhead object with the ROPS.

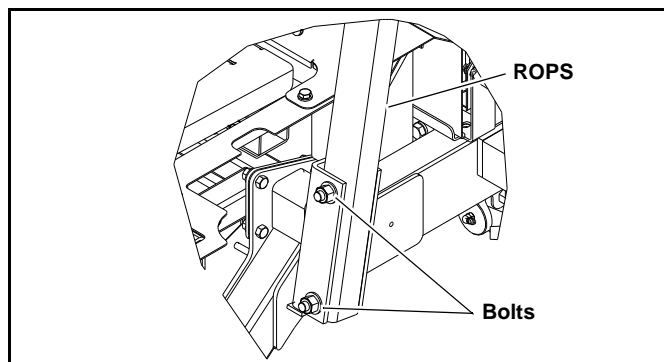
Inspect the seat belt system (all seat, seat belt parts, seat pan and seat pan latch) daily prior to mowing for signs of any damage. These parts should be replaced if any parts indicate signs of:

1. cuts
2. fraying
3. extreme or unusual wear





**Figure 3-16**



**Figure 3-17**

4. significant discoloration due to UV exposure
5. dirt or stiffness
6. abrasion to the seat belt webbing
7. damage to the buckle, latch plate or hardware.
8. or any other problem

If the seat belt is to be cleaned, use soap and water. Do not use carbon tetrachloride, naphtha, etc., as these will weaken the webbing. For the same reason, do not bleach or dye the webbing. Replace seat belt if worn or damaged.

#### **Possible damage to the ROPS**

If the unit has rolled over or the ROPS has been in some other type of accident (such as hitting an overhead object during transport), the ROPS must be replaced to retain the best protection.

Following an accident, check the ROPS, the operator's seat, and the seat belt and seat belt mountings for possible damage. Before operating the machine, replace all damaged parts.

**IMPORTANT:** Do not attempt to weld or straighten the ROPS.



**WARNING:** If the ROPS or cab is removed or replaced, make sure that the proper hardware is used and the recommended torque values are applied to the attaching bolts.



**WARNING:** The ROPS structure's protective capability may be impaired by structural damage, overturn or alteration. If any of these conditions occur, this structure must be replaced.



**WARNING:** Do not remove or alter any of the ROPS parts. Failure to adhere to these instructions could result in severe injury or death. Do not attempt to weld or straighten ROPS. Failure to adhere to these instructions could result in severe injury or death.



**WARNING:** Do not lift or attempt to lift the machine by the ROPS as this may cause structural damage to the ROPS which could result in severe injury or death.

## **Driving the tractor**

### **Operating suggestions**



**WARNING:** Prior to operating the tractor the operator should be thoroughly familiar with the proper use and operation of the equipment, should read the manual completely and thoroughly, and should have attempted slow moving maneuvers to become familiar with the operation of the equipment before attempting normal speed operation. An inexperienced operator should not mow on slopes or on uneven terrain. To prevent personal injury, observe the following precautions when driving the unit.

- ▲ Watch where you are going - especially at row ends, on roads, and around the trees.
- ▲ Reduce speed before turning or applying brakes.
- ▲ Avoid sudden starts and stops on slopes.
- ▲ Be careful when changing direction on slopes.
- ▲ Stay alert for holes, rocks, roots and other hidden hazards in the terrain.
- ▲ Mow a safe distance (minimum of 10 feet) away from drop-offs, retaining walls, drainage ditches, embankments, water, and other types of hazards to avoid a wheel dropping over the edge or to avoid the ground from breaking away.
- ▲ Do not park on slopes.
- ▲ Avoid quick stops especially when an attachment is not installed or raised. Quick stops will cause upsets.



**DANGER:** Use extreme care when operating on slopes. Inexperienced operators may have a tendency to oversteer and lose control. Slow-moving practice maneuvers are recommended to become familiar with these characteristics before attempting normal speed operation.



**WARNING:** Sharp depressions or raised obstacles (such as gutters or curbs) should not be directly approached at high speed in an attempt to “jump” them as the operator could be thrown from the equipment. Approach at a slow speed and angle one drive wheel at the obstruction. Continue at an angle until the wheel clears and then pivot the opposite wheel around.

When turning on soft wet turf, keep both wheels rolling either forward or backward. Pivoting on one stopped wheel can damage turf. This is especially important when mowing.

Tractor performance is maximum when the throttle is set at full rpm. This gives maximum power to the drive wheels and deck when needed. Use the HST pedals to control ground speed rather than engine rpm.

## Transporting the unit

When transporting the unit on a truck or trailer, use the following procedures:

1. Lift the cutting units.
2. Using a single full width ramp only.
3. Place the transmission in the low range Locked AWD for best traction and control.
4. Back the machine onto the transport vehicle to prevent possible loss of balance while loading.
5. Lower the cutting units.
6. Tie the machine down to prevent movement during transport.
7. Make sure the hood is latched to prevent it from opening.
8. Turn the fuel shut-off valve to the closed position.

# MAINTENANCE & ADJUSTMENTS

## Safe Servicing Practices

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions to avoid serious injury or death.

### Service

- ▲ Unless specifically required, **DO NOT** have engine running when servicing or making adjustments to tractor. Park the machine on level ground. Place park brake lever in the brake engaged position, lower attachment, remove ignition switch key, disconnect negative battery cable and chock wheels before doing any maintenance. Wait for all movement to stop before leaving the seat, adjusting, cleaning or repairing. Repairs or maintenance requiring engine power should be performed by trained maintenance personnel only. To prevent carbon monoxide poisoning, be sure proper ventilation is available when engine must be operated in an enclosed area. Read and observe safety warnings in front of manual.
- ▲ Before working on or under the cutting units, make certain engine cannot be accidentally started. Shut engine off, remove ignition switch key, engage park brake and disconnect negative battery cable for maximum safety. Wait for engine and all moving parts to come to a complete stop before leaving operator's seat for any reason. Repairs or maintenance requiring engine power should be performed by trained maintenance personnel only.
- ▲ Always keep covers on cutting units for safety as well as cleanliness.
- ▲ Use a stick or similar instrument to clean under the cutting unit making sure that no part of the body, especially arms and hands are under cutting unit.
- ▲ Keep your machine clean and remove any deposits of trash and clippings, which can cause engine fires. Clean up oil or fuel spillage. Allow machine to cool before storing.
- ▲ Clean flammable material from machine. Prevent fires by keeping the top of the decks, engine compartment, radiator screen, front screen, exhaust area, battery, hydraulic lines, fuel line, fuel tank and operator's station clean of accumulated trash, grass clippings, and other debris. Always clean up spilled fuel and oil.
- ▲ Always wear adequate eye protection when servicing the hydraulic system, cooling system, battery or when grinding reel knives and removing accumulated debris or when cleaning the unit.
- ▲ Use extra caution when handling diesel fuel. It is flammable and vapors are explosive.
- ▲ Never attempt to start engine when there is a strong odor of diesel fumes present. Locate and correct cause.
- ▲ Do not remove fuel tank cap or fill fuel tank while engine is running or while the engine is hot; never refuel near an open flame or near devices which can create a spark. Refuel outdoors. Never refuel or drain the fuel from the machine indoors.

- ▲ Never run the engine in an enclosed area unless exhaust is vented to the outside. Exhaust gases contain carbon monoxide which is odorless and deadly poison.
- ▲ Never attempt to make any adjustments or repairs to the tractor drive system, cutting unit or any attachment while the tractor engine is running or the cutting units are engaged. Repairs or maintenance requiring engine power should be performed by trained maintenance personnel only.
- ▲ Never work under the machine or attachment unless it is safely supported with jack stands. Make certain machine is secure when it is raised and placed on the jack stands. The jack stands should not allow the machine to move when the engine is running and the drive wheels are rotating. **Use only certified jack stands.** Use only appropriate jack stands, with a minimum weight rating of 3500 pounds to block the unit up. Use in pairs only. Follow the instructions supplied with the vehicle stands.
- ▲ Do not touch hot parts of machine. Be careful of hot muffler.
- ▲ Keep nuts and bolts tight. Keep equipment in good working condition.
- ▲ Never tamper with safety devices. Check their proper operation daily.
- ▲ Exercise caution when working with the cutting units as the reel knives are extremely sharp. Wrap the knives or wear gloves and use extra caution when servicing them.
- ▲ On multi-cylinder/multi-reel machines, take care as rotating one cylinder/reel can cause other cylinders/reels to rotate.
- ▲ Use caution when performing maintenance or adjusting the machine to prevent entrapment of fingers between moving blades and fixed parts of the machine.
- ▲ Use only genuine Hustler replacement parts to ensure that original standards are maintained.

## Introduction

Regular maintenance is the best prevention for costly downtime or expensive, premature repair. The following pages contain suggested maintenance information and schedules which the operator should follow on a routine basis. For more detailed information consult the parts manual and engine manual for this unit.

Remain alert for unusual noises, they could be signaling a problem. Visually inspect the machine for any abnormal wear or damage. A good time to detect potential problems is while performing scheduled maintenance service. Correcting the problem as quickly as possible is the best insurance.

Clear away heavy build-up of grease, oil and dirt, especially in the engine and under the seat platform areas; minute dust particle are abrasive to close-tolerance engine and hydraulic assemblies.

**Daily inspect** unit for grass clippings and wire and string tangles. The cutting units will collect a build-up of grass clippings and dirt, especially when grass is wet or has high moisture content. This build-up will harden, restricting reel and air movement and will probably show a poorer quality of cutting. Therefore it should be removed routinely.

To do this it will be necessary to raise and block the cutting units in the full up position and scrape the build-up from underneath.

Some repairs require the assistance of a trained service mechanic and should not be attempted by unskilled personnel. Consult your Hustler service center when assistance is needed.

## Torque values



**WARNING:** Particular attention must be given to tightening the drive wheel lug bolts and blade spindle bolts. Failure to correctly torque these items may result in the loss of a wheel or blade, which can cause serious damage or personal injury.

Torque values are given below:

	<b>Ft-lbs.</b>	<b>Nm</b>
Wheel (lug) bolts - front . . . . .	85-95 . . .	115.2-128.8
Wheel (lug) bolts - rear . . . . .	85-95 . . .	115.2-128.8

**Lug bolts only** - It is recommended that these be checked after the first 2 hours of operation, initially, every 50 hours and following removal for repair or replacement.

For all other torques refer to the parts manual for standard torque chart. See the Product Literature section of this manual for ordering information.

For engine torque values, see engine service manual.

## Tires

It is important for level mowing that the tires have the same amount of air pressure. The recommended pressure are:

Front wheels . . . . .	8-12 psi (55-83 KPa)
Rear wheels . . . . .	8-12 psi (55-83 KPa)

**Solid fill tires are not recommended** for Hustler turf equipment. On any machine, with solid filled tires, the warranty claim will be denied.

## Lubrication

Engine Oil . . . . .	See Chart below
Transmission Oil . . . . .	ISO VG 46
Grease . . . . .	SAE multi-purpose grease
Reel circuit Oil . . . . .	ISO VG 46

<b>Recommended Engine Oils</b>	
<b>Ambient Temp ( ° F )</b>	<b>Recommended oil</b>
+ 40° — 120°	SAE 30W
+ 10° — 120°	SAE 15W-40
– 10° — 120°	SAE 10W-30
– 20° — 60°	SAE 5W-30
NOTE: Engine originally shipped with 10W-30 oil.	

## Lubrication fittings

After every 50 hours of normal operation, apply a good quality grease to the lubrication points shown on the *Maintenance Locator Chart* found elsewhere in this manual. When operating under extremely dirty conditions, lubricate more frequently than every 50 hours.

To lubricate these points:

1. Wipe away all old grease and dirt from the lubrication fittings to prevent dirt or foreign material from entering as new grease is applied.
2. Use a high pressure grease gun to force in the new grease. Apply pressure until clean grease oozes from each lubrication point.
3. Wipe away any excess grease.

## Opening the hood



**WARNING:** To avoid personal injury from contact with moving parts. Never open the hood and seat while the engine is running. Do not touch the muffler or exhaust pipe while they are hot; severe burns could result.

Release the clamp to unlock the hood latch. Raise the hood using the hood handle. Figure 4-1

Close the hood and clamp the hood latch.



**Figure 4-1**

## Opening the seat platform

Lift up on the seat release lever and pivot the seat platform forward. Figure 4-2

## Cleaning the equipment

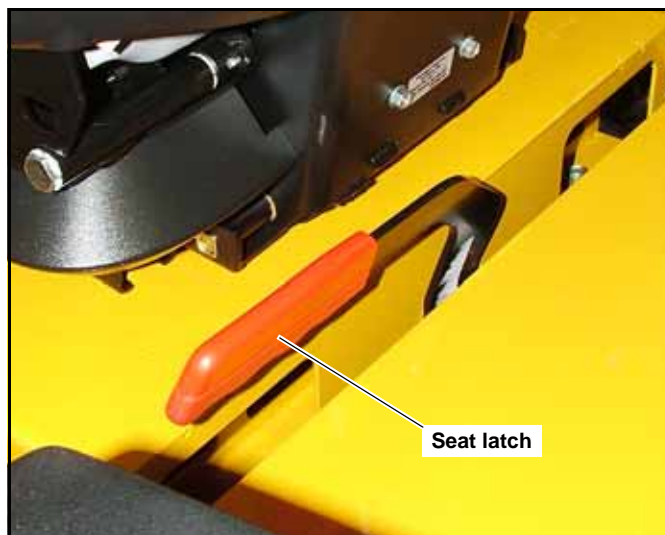
The following are general guidelines for the cleaning of the Hustler 7700 unit:

1. Lower the cutting units.
2. Set parking brake, turn off engine and remove ignition key.



**WARNING:** Clear area of bystanders. Wear eye protection.

3. When cleaning the unit never use compressed air that has a higher pressure than 30 psi (210 kPa).
4. Use compressed air to clean the following areas. **Do not** use water when cleaning these areas.
  - a. Radiator and air screens.
  - b. Engine compartment



**Figure 4-2**

- c. Under the operator's seat platform.
- d. Anyplace that electrical components are located. Water in electrical components may create electrical problems.
- 5. Use high volume, low pressure water to clean the rest of the machine.  
**IMPORTANT:** Do not use high pressure water on the cutting units. Water may blow by the reel motor seals and into the reel motor bearings.
- 6. Grease the cutting units after washing to purge any moisture from the system.

## Electrical system

The electrical system is a 12-volt, negative ground.

The recommended battery size is a BCI group 35, 12-volt battery with a minimum cold cranking ability of 490 amps at -18°C (0°F). A maintenance-free battery is recommended. Otherwise, follow battery manufacturer's maintenance, safety, storing and charging specifications. Refer to *Maintenance Locator Chart* found elsewhere in this manual.



**WARNING:** Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.



**WARNING:** Change batteries in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from the battery. Wear protective clothing and use insulated tools.



**WARNING:** Avoid skin and clothing contact with battery acid.



**WARNING:** Always wear eye protection when checking the battery, acid can cause serious injury to skin and eyes. If contact occurs, flush area with clean water and call physician immediately. Acid will also damage clothing.

Do not drink the battery electrolyte.

Do not allow open flame near the battery when charging.

Hydrogen gas forms inside the battery. This gas is both toxic and flammable and may cause an explosion if exposed to flame. Always remove the negative ground first and replace it last.

Do not overfill battery.

Electrolyte may overflow and damage paint, wiring or structure. When cleaning the battery, use soap and water. Be careful not to get soap and water into the battery. Clean the battery terminals with a solution of four parts water and one part baking soda when they become corroded.



**WARNING:** Shorts caused by battery terminals or metal tools touching metal tractor components can cause sparks. Sparks can cause a battery gas explosion which will result in personal injury.

Prevent the battery terminals from touching any metal tractor parts when removing or installing the battery.

Do not allow metal tools to short between the battery terminals and metal tractor parts.



**WARNING:** Incorrect battery cable routing could cause damage to the tractor and battery cables. This can cause sparks which can cause a battery gas explosion which will result in personal injury.

Always **disconnect** the negative (black) battery cable before disconnecting the positive (red) cable.

Always **connect** the positive (red) battery cable before connecting the negative (black) cable.

## Alternator

The 7700 40-amp alternator is belt-driven from the engine crankshaft pulley. It is important that belt slippage does not occur, or the charging system will be affected.

To adjust the belt, see the instructions given under the *Fan Belt* section located elsewhere in this manual.

Other than belt adjustment, the only alternator maintenance required is to periodically inspect the terminals to ensure they are clean and tight. The alternator cooling fins should also be cleaned periodically.

When working on or checking the alternator, adhere to following precautions or alternator damage may occur:

- **Do not, under any circumstances,** short the field terminal of the alternator to ground.
- **Do not** disconnect the alternator output lead or battery cables while the alternator is operating.
- **Do not** remove the alternator from the tractor without first disconnecting the negative (-) battery cable. When removing the battery, disconnect the negative (-) cable first.
- To install a battery, **make sure** that the positive (+) cable is connected first and that the negative terminal is connected



to ground. Reverse polarity will destroy the rectifier diodes in the alternator.

If the battery charge warning light illuminates, indicating that the alternator is not charging the battery, check the fan belt and the wiring connections. If these items are in satisfactory condition and the warning light continues to indicate no charge, consult your Hustler Dealer.

### Fuse block

Remove the fuse block cover and inspect the fuses. Always replace blown fuses with the size specified for that circuit.

Figure 4-3

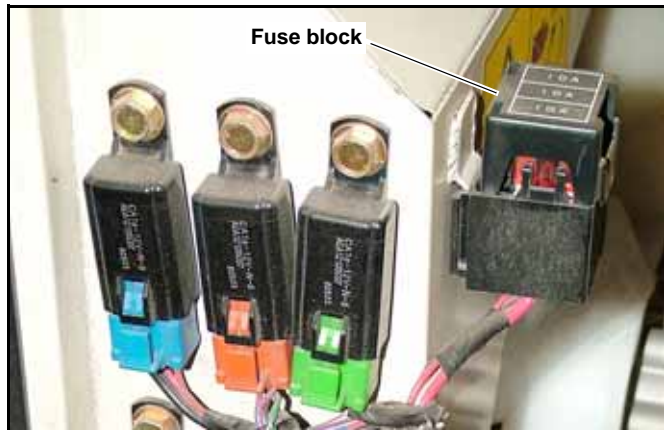


Figure 4-3

### Fusible link

A fusible link wire is used to protect the mower's entire electrical system. If too much amperage passes through this wire it will melt down so that it will no longer allow current to pass (similar to the way a fuse works). The fusible link wire is a red wire that goes from the starter terminal to a connector that links into the main wiring harness.

To replace the fusible link wire (Figure 4-4):

1. Disconnect the negative battery cable from the battery.
2. Unplug the connector linking the wire to the main wiring harness.
3. Remove the old fusible link wire from the starter terminal.
4. Replace the old fusible link wire with a new one - first attaching to starter terminal, and then connecting into the main wire harness.

**IMPORTANT:** Always replace the fusible link wire with the appropriate fusible link wire for this tractor

### Head lamp

If a head lamp fails to operate, the bulb must be replaced.

To change the bulb:

1. Pull the lower cover frontward and remove it. Figure 4-5
2. Turn the socket counterclockwise and remove the socket from the headlamp housing.
3. Remove the bulb. Figure 4-6
4. Install a new bulb in the socket and install the socket with bulb in the housing.
5. Install the front cover.

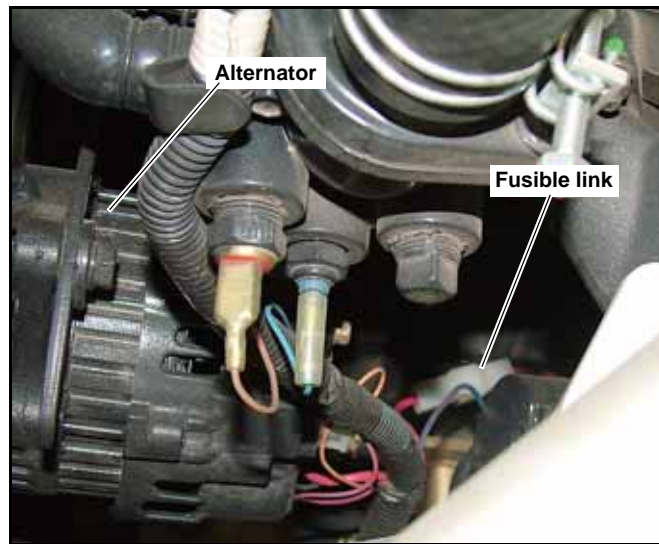


Figure 4-4



Figure 4-5



Figure 4-6

### Replacement bulb:

Head Lamp Bulb Type . . . . JIS S25 BA15 12V 23W

### Instrument panel light

To change a burned out instrument bulb:

1. Pull the lower cover frontward and remove it. Figure 4-5
2. Remove the four screws that connect the front cover to to

the dashboard. Figure 4-7

3. Remove the front cover of the dashboard. Figure 4-7
4. Turn the burned out bulb together with the socket half a turn counterclockwise and pull it out. Figure 4-8
5. Replace the bulb with new one and return the bulb and socket to the original place.
6. Re-attach the front cover and lower cover.

#### Replacement bulbs:

Indicator Bulb Type . . . . . JIS T6.4 14V 3W (Qty 5)

Indicator Bulb Type . . . . . JIS T5 13.5V 2W (Qty 1)



Figure 4-7

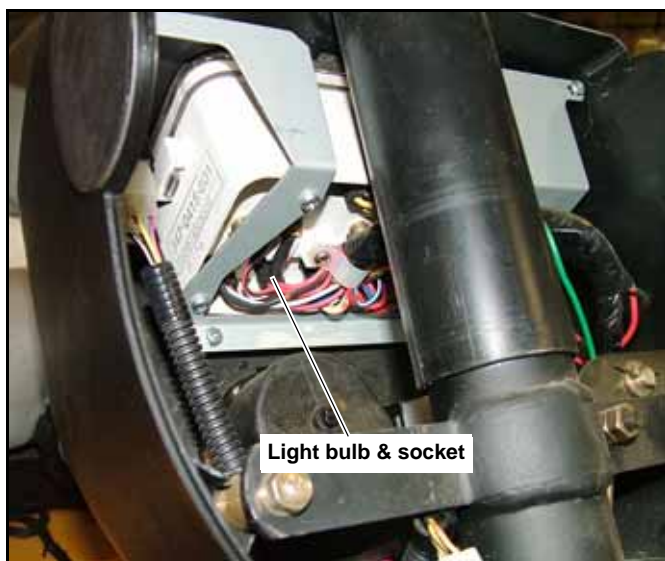


Figure 4-8

## Fuel system



**DANGER:** To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.



**DANGER:** Observe usual fuel handling precautions:

Do not smoke while refueling or anywhere near fuel. Extinguish all cigarettes, cigars, pipes and other sources of ignition.

Do not remove fuel cap or fill tank with engine running or while engine is hot. Clean up any diesel fuel spills immediately.

Always tighten the fuel cap securely.

Allow engine to cool before storing machine inside a building.

Keep fuel away from open flame or spark and store machine away from open flame or spark or pilot light such as on a water heater or other appliances.

Use extreme care when handling diesel fuel. It is extremely flammable and vapors are explosive. A fire or explosion from diesel fuel can burn you and others and can damage property.

Never refuel or drain the diesel fuel from the machine indoors.

Never attempt to start engine when there is a strong odor of diesel fuel fumes present. Locate and correct cause.

Store diesel fuel in an approved container and keep it out of the reach of children.

Always place diesel fuel containers on the ground away from your vehicle before filling.

Do not fill diesel fuel containers inside a vehicle or on a truck or trailer bed with interior carpets or plastic truck bed liners. Always place diesel fuel containers on the ground away from your vehicle before filling.

When practical, remove diesel fuel-powered equipment from the truck or trailer and refuel the equipment with its wheels on the ground. If this is not possible, then refuel such equipment on the truck or trailer using a portable container and not a fuel dispenser nozzle. If a fuel dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

Never use diesel fuel or gasoline for cleaning parts.

Read and observe safety precautions elsewhere in this manual.



**WARNING:** Diesel fuel is harmful or fatal if swallowed.

Long-term exposure to vapors can cause serious injury and illness.

Avoid prolonged breathing of vapors.

Keep face away from nozzle and fuel tank or diesel fuel container opening.

Keep diesel fuel away from eyes and skin.

If diesel fuel is spilled on clothing, change clothing immediately.



**WARNING:** Under no circumstances should gasoline, alcohol, or gasohol be added to diesel fuel. These combinations can create an increased fire or explosive hazard.



**WARNING:** Fuel System Under Pressure! Fuel in the injection system is under high pressure and can penetrate the skin. Unqualified persons should not remove or attempt to adjust a pump injector, nozzle or any part of the fuel injection system.

Do not use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.

If any fluid is injected into the skin, obtain medical attention immediately or gangrene may result. Failure to follow these instructions can result in serious injury.

Check the fuel line periodically as it is subject to wear and aging, fuel may leak onto the engine which could cause a fire.

**IMPORTANT:** Do not fill tank to capacity. Allow room for expansion. Fuel should be filled to a maximum height of 2" below the bottom of the inside of the fuel fill neck.

**IMPORTANT:** If the original fuel tank cap is lost, always replace it with a Hustler approved cap. A "will fit cap" may not be safe. Figure 4-9

#### Diesel fuel

- Use clean, quality No. 1-D or No. 2-D fuel
- Use No. 1-D fuel if the ambient temperature is expected to be lower than 39 degrees F (4 degrees C) or if the tractor is to be used at an altitude exceeding 5000 ft. (1524 m).
- Use No. 1-2 diesel fuel with a pour point of at least 10°F (-12°C) below the expected ambient temperature to prevent fuel flow problems in cold weather.
- B5 Blend biodiesel fuel is permissible. (5% biodiesel / 95% petroleum based fuel blend)
- Keep dirt from entering the fuel tank.
- Sulfur content of the fuel should be no more than 0.05%.
- Sediment and water content should not exceed 0.05%.
- Minimum cetane number is 40. Low temperature or high altitude operation may require use of fuel with a higher Cetane number.
- Use properly mixed winter fuel when temperatures are extremely cold. In most areas, diesel fuel is properly blended for summer and winter grades as ambient temperatures change. In winter, use winter grade diesel fuel

only. Otherwise, the fuel may cloud and block the fuel system.

#### Refueling the Tractor

The fuel tank filler cap is located on the left fender. Before removing the cap, wipe all dust and dirt from around the cap to prevent debris from falling into the tank while filling. Figure 4-9

Use an approved fuel container and check the inside of the container periodically for cleanliness. Fuel tank capacity is 19.0 gallons (72 L).

**NOTE:** The fuel cap is a vented-type. Use only an approved Hustler replacement cap to prevent fuel system-related problems.

If there is no filter on the storage tank or fuel container, filter the fuel through a 100-mesh or finer screen when filling the mower fuel tank. Keep the mower tank as full as possible (without filling to capacity) to minimize condensation.

**NOTE:** It is a good practice to fill the fuel tank at the end of each day, as this will reduce overnight condensation.



Figure 4-9

#### Fuel filter

##### Draining the fuel filter:

**NOTE:** The fuel filter should be drained after every 100 hours of operation.

1. Make sure there is adequate fuel in the fuel tank and close the fuel shutoff valve (the handle should be pointing to the "C" position.) Remove the fuel sediment bowl. Figure 4-10
2. Open the fuel shutoff valve until all water has been removed and only fuel flows from the filter base.
3. Install the fuel sediment bowl. The fuel system is auto bleeding And does not require any manual bleeding procedures.

##### Changing the fuel filter:

**NOTE:** Change the diesel fuel filter after every 200 hours of operation.

1. Close the shutoff valve (the handle should be pointing to the "C" position). Figure 4-10
2. Remove the sediment bowl by rotating the retaining nut Ref. No. 1. Figure 4-11



3. Open the fuel shutoff valve Ref. No. 2, to drain any remaining water from the tank. Figure 4-11
4. Discard the fuel element Ref. No. 3, and install a new element. Figure 4-11
5. Inspect the O rings Ref. No. 4 & 5 and replace if necessary. Figure 4-11
6. Install and securely tighten the sediment bowl.
7. Open the fuel shutoff valve (the handle should be pointing to the "O" position), so fuel will flow to the filter. Figure 4-10
8. Bleed the fuel filter and injection pump as described below in Bleeding the Fuel System.

### Bleeding the fuel system

The 7700 fuel system is designed to bleed automatically.

1. When the fuel tank is empty  
Fill until the fuel level of the tank is at least half full, then wait about one minute for air to dissipate.
2. When the fuel filter has been replaced:  
After replacing the filter, open the fuel shutoff valve.  
Air will dissipate for about one minute.

**NOTE:** Fuel tank fuel level must be half full or more for auto bleed system to function correctly.

**NOTE:** The 7700 is an auto bleeding system. No manual bleeding procedures are needed.

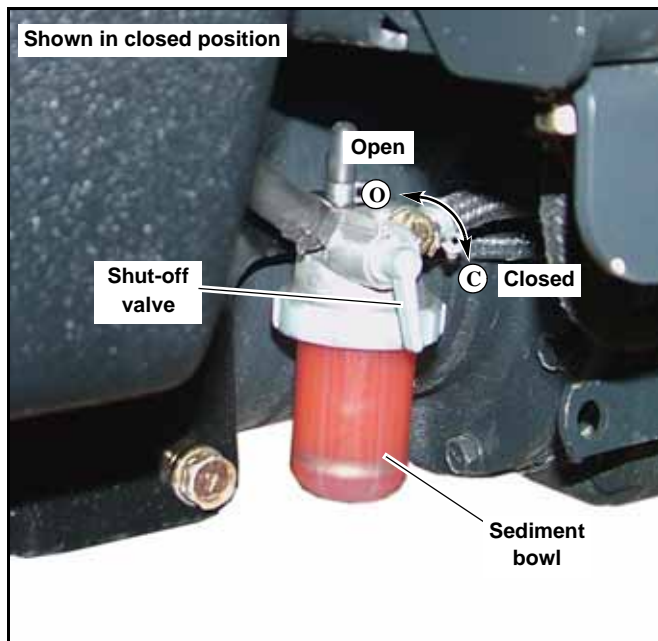


Figure 4-10

## Engine oil and filter

### Checking the Engine Oil Level

Check engine oil daily. Tractor must be setting level and the engine stopped for a period of time when checking oil level. Refer to **engine manual and maintenance schedule** for oil recommendation and capacities.

Change the engine oil and filter every 100 hours or annually, whichever comes first.

**NOTE:** If tractor is being operated in extremely dirty conditions, then it is recommended oil be changed more frequently. If the engine is operated for extended periods of time at maximum rated power and speed or under other types of continuous, severe operating conditions the oil and filter

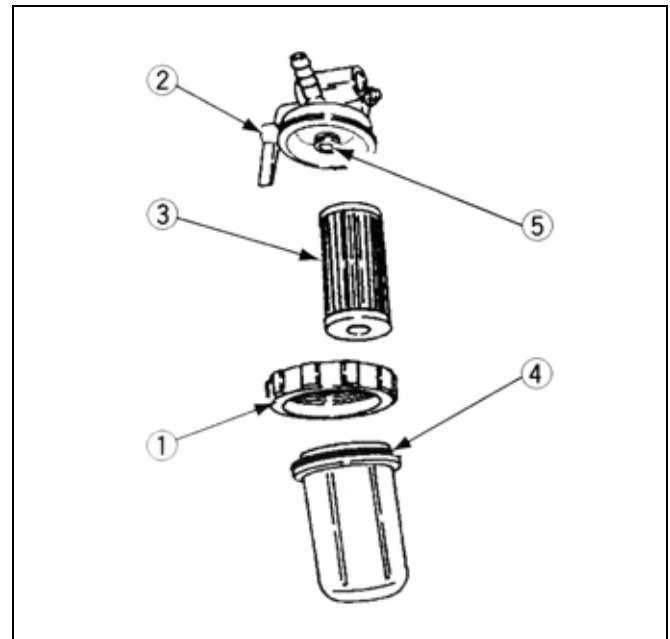


Figure 4-11

should be changed at 70 hours intervals following the initial oil change.

Refer to Figure 4-12 for the engine oil fill location.

Refer to Figure 4-13 for the engine oil filter and dipstick location.

Refer to Figure 4-14 for the engine oil drain location.

### Changing the oil

1. Before adding engine oil, place the unit on a level surface, then remove the dipstick to provide crankcase ventilation.
2. Add oil at the oil fill shown. Figure 4-12  
**NOTE:** When changing the engine oil, add the exact amount specified in the engine owner's manual.  
**NOTE:** Use CD grade or better by API classification engine oil.
3. Wait about fifteen minutes until the oil gets down to the oil pan. Then check the oil level with a dipstick. A certain period of time is required before the engine oil completely flows down from the oil filler to the crankcase.
4. Check the oil level, accounting for the higher oil level due to the oil filter oil capacity.

### Engine air filter

Perform engine air filter maintenance per the Service Interval chart shown elsewhere in this manual.

A specially designed dry filter is standard equipment on these tractors and supplies clean combustion air to the engine. Figure 4-15 Change the filter whenever the Air Cleaner Restriction Warning Light comes on. Fig. 3-1

These units are equipped with a safety filter. The primary filter element slides over the safety filter. **NOTE:** For maximum engine protection and air cleaner service life, install a new inner safety element every third primary element change or after every 1000 hours of operation, whichever comes first.

**NOTE:** The safety filter does not require servicing unless it becomes contaminated with dirt or moisture.



Figure 4-12

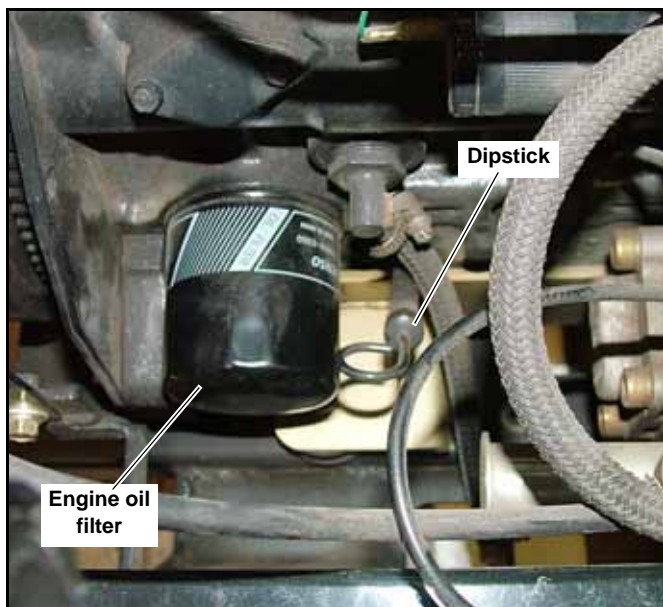


Figure 4-13

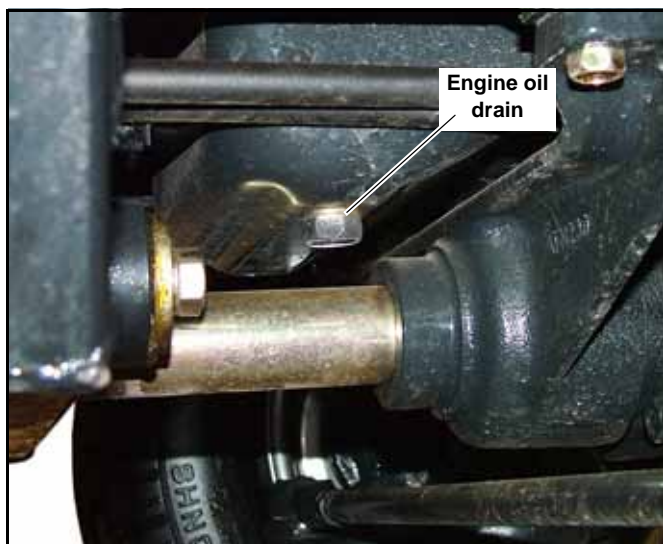


Figure 4-14

#### Recommended service procedure

1. Release clamps and remove element. Clean the canister with a damp cloth.

2. Before **installing a new element**, inspect it by placing a bright light inside and rotate the element slowly, looking for any holes or tears in the paper. Also check gaskets for cuts or tears. Do not attempt to use a damaged element which will allow abrasive particles to enter the engine.
3. Install the new element and reinstall the dust cup. Make sure it seals all the way around the air cleaner body, then tighten the clamps.
4. Check all fittings and clamps periodically for tightness and inspect hoses for holes or cracks.
5. Periodically check the intake hose for signs of ingested dust. Locate and repair the source of ingested dirt.
6. Never operate a machine without an air filter installed.



Figure 4-15

#### Overservicing

Overservicing occurs when an air filter element is removed for cleaning or replacement before it is necessary. Each time the filter is removed a small amount of dirt and dust could fall in the intake system. This accumulated dirt can cause a dusted engine. It only takes a few grams of ingested dirt over the normal service life of an engine to cause a dusted engine.

**Do not clean element, replace with a new element only.** Cleaning used air filter elements, through improper cleaning procedures, can get dust on the inside of the filter causing dirt ingestion and engine failure.

It is important to note that whenever an air filter element is cleaned by **any method**, the person or company performing the cleaning assumes responsibility for the integrity of the filter from then on. **The warranty for air filters expires upon cleaning or servicing in any manner because the condition of the filter after servicing is completely out of their control. Therefore, on a dust ingested engine failure, there will be no warranty consideration if the air filter element has been cleaned or serviced in any manner.**

A partially dirty air filter element works better than a new element. Therefore, a dirty filter element is not bad for the engine unless it is excessively restricting the air flow and engine performance is affected. The reason is simple. The media in the filter must be porous to allow air to pass through it. When dirty air passes through the filter, the dirt plugs some of the holes in the media and actually acts as part of the filter



media. When the next round of dirt enters, the first dirt helps filter out even smaller particles making the filter more efficient at stopping dirt from entering the engine. This is referred to as barrier filtration.

Of course, at some point the filter media becomes too clogged to allow air to pass.

The mowing conditions will determine the frequency of air filter element changing.

## Cooling system

The 7700 engine must operate at the correct temperature to obtain maximum efficiency and service life. This is dependent on the cooling system.

Fill the system with a 50/50 solution of ethylene glycol antifreeze and clean, distilled water. This mixture should provide freezing protection down to -32 degrees F (-36 degrees C)

### Checking the coolant level



**WARNING:** Always wear eye protection when servicing the cooling system.

**NOTE:** Visually inspect the system daily prior to operating tractor. Be sure the engine is level. Open the hood, and check the coolant recovery reservoir located on the right side of the radiator. **Check the coolant level only when the system is cold.** Check the coolant level only at the overflow reservoir (Figure 4-16). The cooling system is a closed type. Never open the radiator cap. Doing so may induce air into the cooling system and may cause overheating. The coolant level should be between the low and full marks on the reservoir.

If the coolant recovery reservoir is low, refill system, with the proper coolant mixture, through the recovery reservoir. It is not necessary to remove the radiator cap to replenish the coolant.

The radiator is equipped with a pressure cap and overflow reservoir.



**WARNING:** Never remove radiator cap or overflow reservoir cap when engine is hot. Pressurized hot steam and water may be released, causing serious burns or possible blindness.

The cooling system operates under pressure controlled by the radiator cap. It is dangerous to remove the cap while the system is hot. Always cover the cap with a thick cloth and turn it slowly counter-clockwise to the first stop. Allow all pressure to escape before removing the cap completely.

Be sure that the radiator fins are clear of chaff and dirt to allow free air movement.

### Draining and flushing the cooling system

**NOTE:** Drain and flush the radiator and engine block every 12 months. Refill with a 50/50 mixture of permanent antifreeze and clean, distilled water.



**WARNING:** Allow the engine and radiator to cool before draining and flushing the system.

To drain the cooling system:

1. Use a suitable receptacle to catch the used coolant.



Figure 4-16

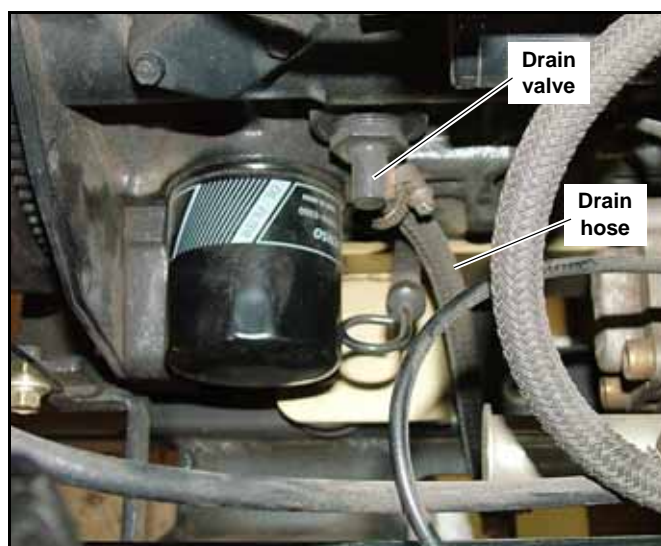


Figure 4-17

Remove the radiator cap and open the drain valve to drain the radiator and engine block. Figure 4-17

2. After the coolant has drained, place a water hose in the radiator filler neck and run water through the system. When water is flowing from the block drain valve, start the engine. When the water flowing from the drain valve, is free of discoloration and sediment, stop the engine and remove the hose. Allow all water to drain from the system through the drain valve.
3. Close the drain valve and slowly refill the system with a 50/50 solution of permanent antifreeze and clean, distilled water. Fill until the coolant level is approximately 1.5"-2.0" (3.8cm-5cm) below the bottom of the filler neck. Do not fill beyond this level.
4. Clean the radiator cap and cap seal and install the cap. Figure 4-18
5. Fill the coolant recovery reservoir bringing the fluid level up until it is between the full and low marks on the reservoir.
6. Open the radiator screen and remove chaff, dust, or other foreign substances. The foreign substances can be dropped onto the ground through the rubber at the bottom. Figure 4-19 and Figure 4-20

7. Run the engine until normal operating temperature is reached, then stop the engine. Recheck the coolant level when the engine is cold and add additional coolant as necessary.

**IMPORTANT:** Never run the engine when the cooling system is empty. Do not add cold water or cold antifreeze solution if the engine is hot.



**Figure 4-18**



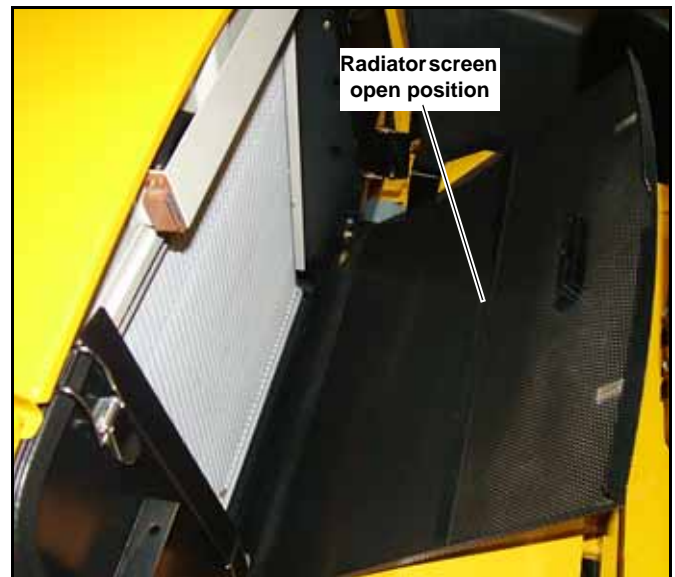
**Figure 4-19**

### Fan belt

**NOTE:** Check the condition of the fan belt after every 50 hours of operation. Check fan belt tension after every 200 hours of operation. Figure 4-21

A belt-driven fan located at the front of the engine draws air through the fins of the radiator to lower the temperature of the radiator coolant.

When 20-25 lbs. (9-11 kg) of thumb pressure is applied midway between the water pump pulley and the alternator pulley, a correctly tightened belt will deflect .16"-.24" (4mm-6mm). Figure 4-22



**Figure 4-20**

If the fan belt is slipping, fan efficiency is lowered, resulting in the engine running too hot. If the belt is too tight, the life of the alternator bearing will be shortened. If the fan belt shows signs of cracking or fraying, install a new one.

### To adjust fan belt tension:

1. Loosen the alternator mounting bolts. Figure 4-21 and Figure 4-22



**WARNING:** Never attempt to loosen or tighten alternator mounting bolts with the engine running.

2. Pry the alternator away from the engine and tighten the mounting bolts.
3. Recheck belt deflection.

### Transmission, front axle and hydraulic system oil



**WARNING:** Hydraulic fluid escaping under pressure may have sufficient force to penetrate skin and cause serious injury. Foreign fluid injected into the skin must be surgically removed within a few hours by a doctor, familiar with this form of injury, or gangrene may result.

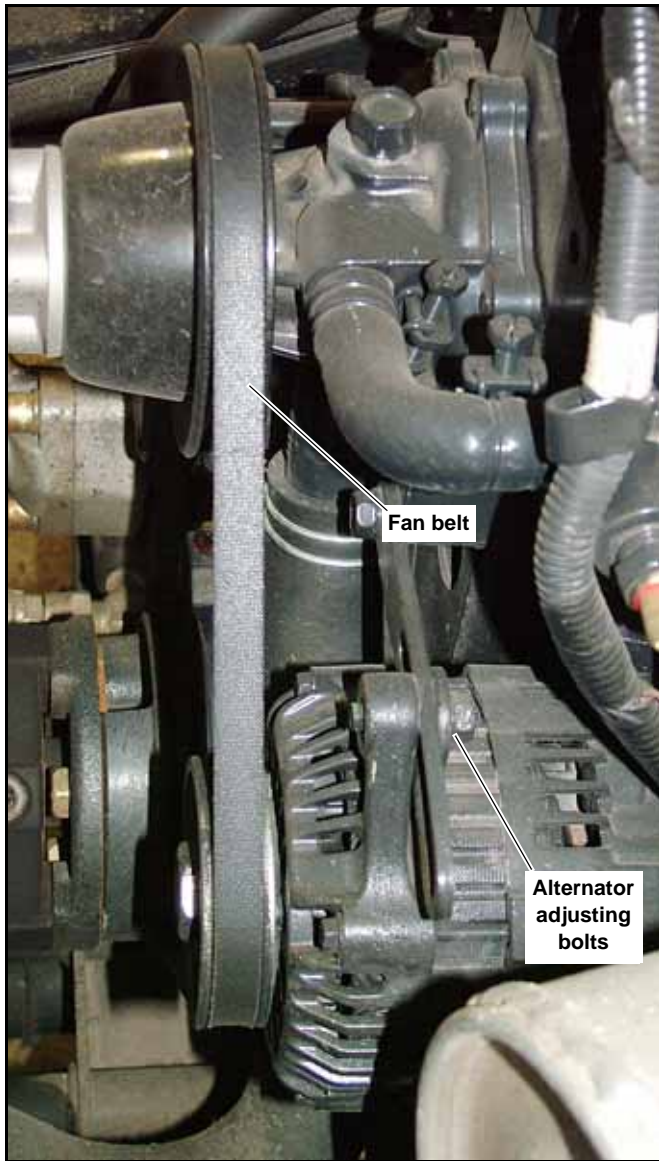
Before applying pressure to hydraulic system, make sure all connections are tight and all hoses and lines are in good condition. To find a leak under pressure, use a piece of cardboard or wood — never use your hands. Relieve all pressure in the system before disconnecting or working on hydraulic lines. To relieve pressure, lower all attachments and shut off engine.

### Checking Oil Level:

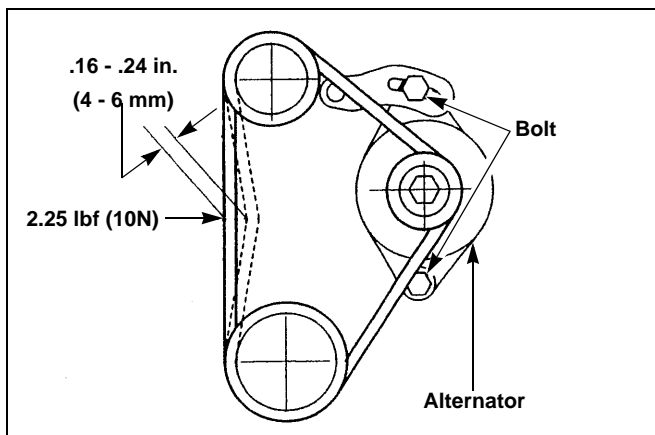
Check the oil level every **50 hours**.

1. With the tractor standing level and the engine off, check the oil level with the dipstick. Figure 4-23
2. The oil is at the correct level when the oil level is within the mark at the lower end of the dipstick. If low, add ISO VG46 hydraulic oil, through the filler hole. Do





**Figure 4-21**



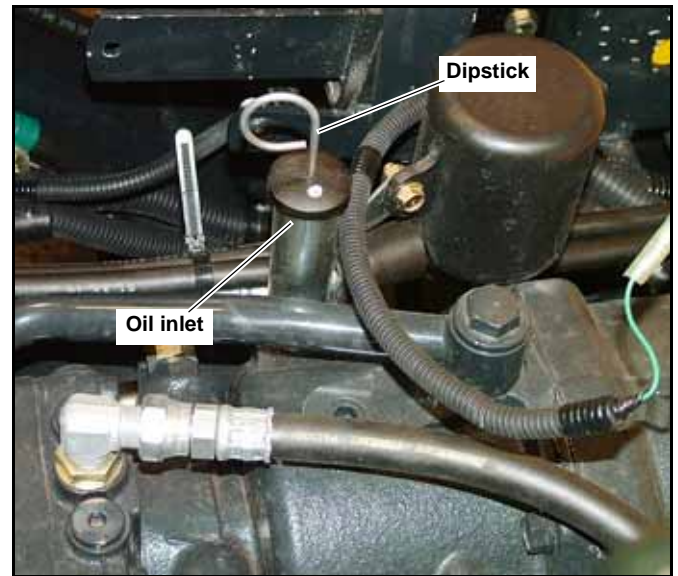
**Figure 4-22**

not fill beyond the mark on the stick, as the transmission will be overfilled.

3. Install the dipstick.

### Changing Oil & Filters:

**NOTE:** Replace the filters after the first 50 hours of operation and every 500 hours or annually thereafter following the procedure below:



**Figure 4-23**

Change the oil every **500 hours or annually or as needed.**

1. With the oil at normal operating temperature, drain and discard the oil by removing the transmission drain plug. Reinstall the plug after the oil has drained. Figure 4-24



**WARNING:** The oil will be hot. Use caution to prevent skin from coming in contact with hot oil.

2. Unscrew the oil filters and discard. Fig. 4-24 & 4-25
3. Coat the gasket on the new filters with a film of oil. Screw the filters into place until the gasket contacts the sealing surface, then tighten the filters approximately 3/4 of a turn by hand. Do not over tighten. Figure 4-25
4. Remove the filler plug and dipstick and fill with ISO VG46 hydraulic oil.
5. The transmission is filled to the correct level when the oil level is within the mark at the lower end of the dipstick. Do not fill beyond the mark on the stick, as the transmission will be overfilled.
6. Install the dipstick and filler plug.
7. Start the engine and check the hydraulic oil filters for leaks.
8. Stop the engine and check the hydraulic oil level. Replenish if necessary.

**IMPORTANT:** The transmission, front axle and hydraulic system operate from a common oil sump. Special attention must be given to keeping oil clean.

### Checking Cutting Unit Oil Level:

Check the oil level every **50 hours.**

1. With the tractor standing level, the cutting units lowered and the engine off, check the oil level in the sight glass. Figure 4-26
2. The oil is at the correct level when the oil level is 1/2 to 2/3 above the bottom of the sight glass. If low, add ISO

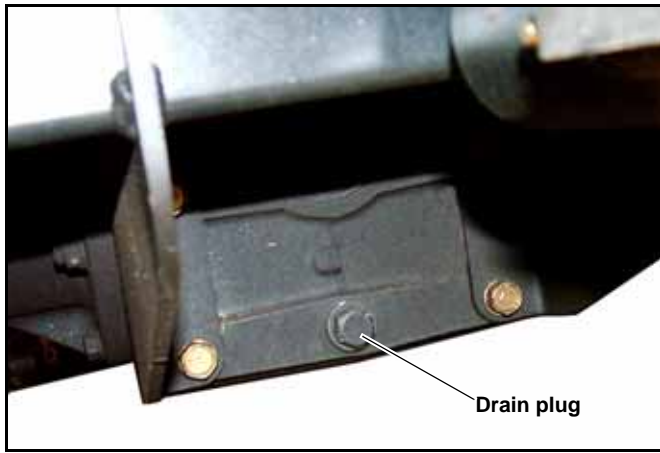


Figure 4-24



Figure 4-25

VG46 hydraulic oil, through the oil filler port. Do not fill above the 2/3 level. Figure 4-26

3. After refilling with oil, retighten the oil reservoir cap.

### Changing Cutting Unit Oil and filter:

**NOTE:** Replace the filters after the first 50 hours of operation and every 500 hours or annually thereafter following the procedure below:

Change the oil every **500 hours or annually or as needed**.

1. With the oil at normal operating temperature, drain and discard the oil by removing the transmission drain plug. Reinstall the plug after the oil has drained. Figure 4-27



**WARNING:** The oil will be hot. Use caution to prevent skin from coming in contact with hot oil.

2. Unscrew the oil filter and discard. Figure 4-28
3. Coat the gasket on the new filter with a film of oil. Screw the filter into place until the gasket contacts the sealing surface, then tighten the filter approximately 3/4 of a turn by hand. Do not over tighten. Figure 4-28
4. Remove the filler plug and fill with ISO VG46 hydraulic oil.
5. The oil is at the correct level when the oil level is 1/2 to 2/3 above the bottom of the level gauge. If low, add ISO VG46 hydraulic oil, through the oil filler port. Do not fill above the 2/3 level.

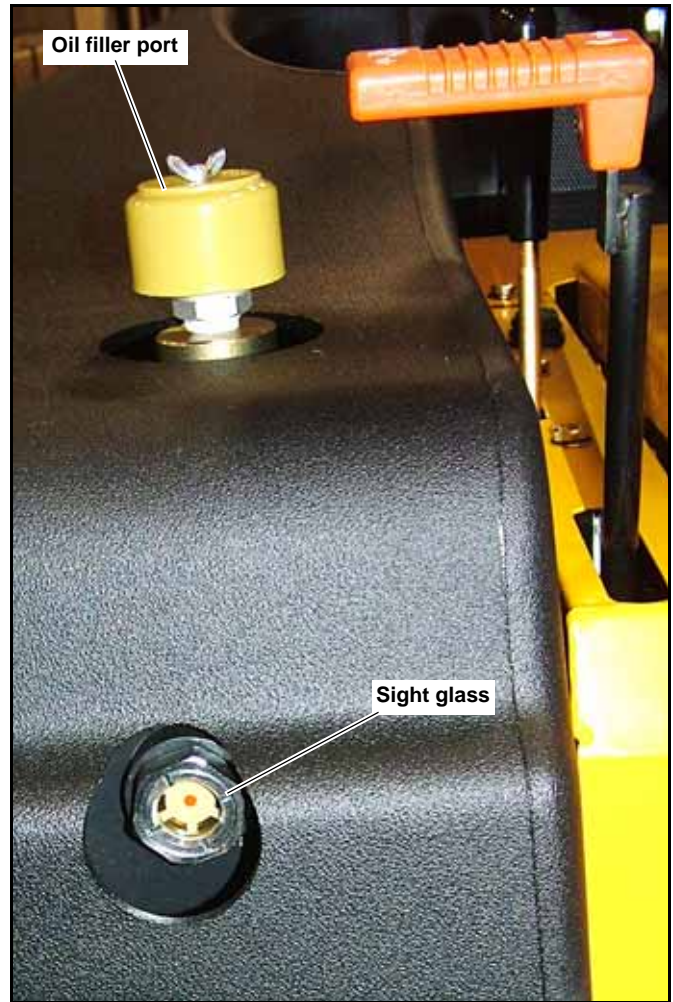


Figure 4-26

6. After refilling with oil, retighten the oil reservoir cap
7. Start the engine and check the hydraulic oil filter for leaks.
8. With the engine idling, check the hydraulic oil level. Replenish if necessary.

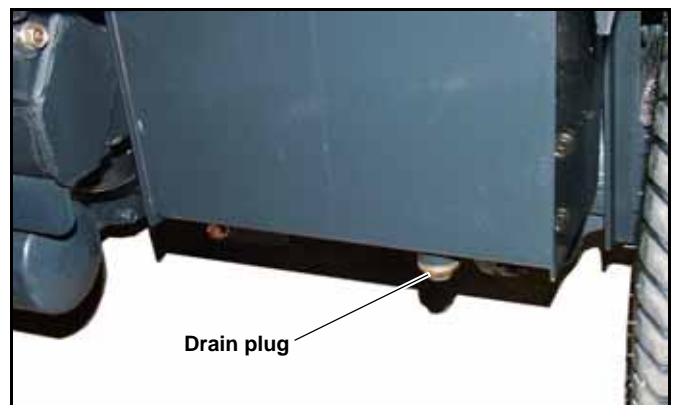


Figure 4-27

### HST Suction Strainer

Replace the suction strainer when changing the HST oil.

1. After draining the HST oil, unscrew the strainer from the hydraulic reservoir and remove. Figure 4-29
2. Install a new strainer into the hydraulic reservoir and tighten.



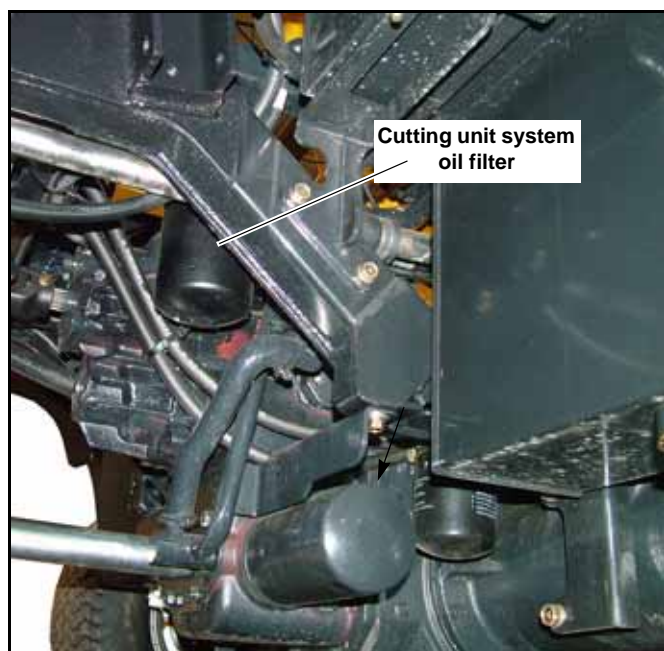


Figure 4-28

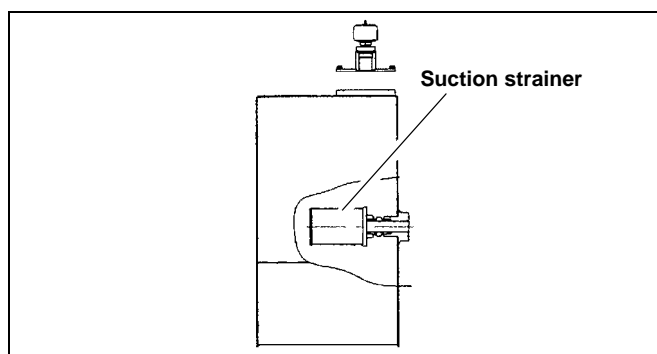


Figure 4-29

### Rear axle case and final reduction gear cases

Check the oil level every **100 hours**.

1. Clean the area around the dipstick/filler plug to prevent dirt from entering the rear axle housing. With the engine off and the tractor standing level, check the oil level using the combined dipstick/filler plug. The oil is at the correct level when it reads between the two marks on the dipstick.

**NOTE:** Place the dipstick/filler plug horizontally over the oil inlet and measure the oil level. Do not screw dipstick into housing when checking oil level. Figure 4-30

2. If the level is low, add ISO VG46 hydraulic oil through the filler hole. Do not fill above the dipstick full mark.
3. Reinstall the dipstick/filler plug.

Change the oil every **500 hours or annually or as needed**.

1. With the oil at normal operating temperature, drain the oil by removing the rear axle and final reduction gear case drain plugs. Reinstall the plugs after the oil has drained. Discard the oil. Figure 4-30 & Figure 4-31
2. Supply new ISO VG46 hydraulic oil into the fill hole until oil level is between the two marks on the dipstick. Figure 4-30
3. To fill the final reduction gear cases with new ISO VG46 hydraulic oil:
  - a. Remove the right and left rear wheels.

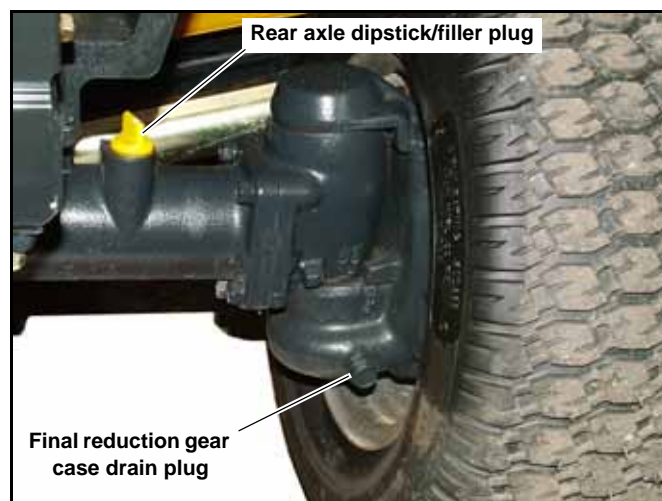


Figure 4-30

- b. Oil supply plugs are located on the front side of the right and left final reduction gear cases. Remove the plugs. Figure 4-32
- c. Pour the hydraulic oil in the plug holes until the final reduction gear cases are full
- d. Re-install plugs.

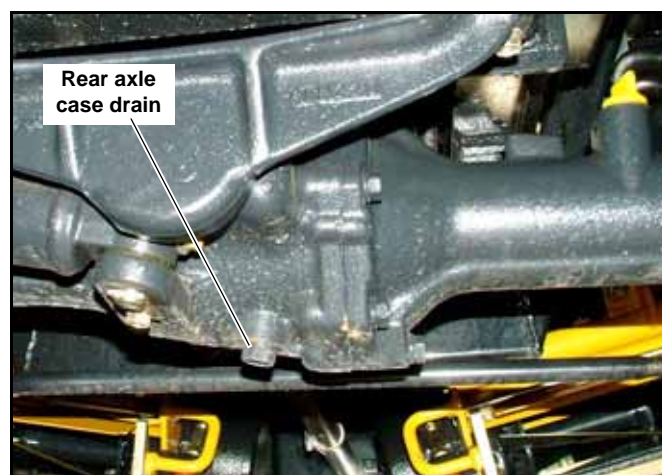


Figure 4-31

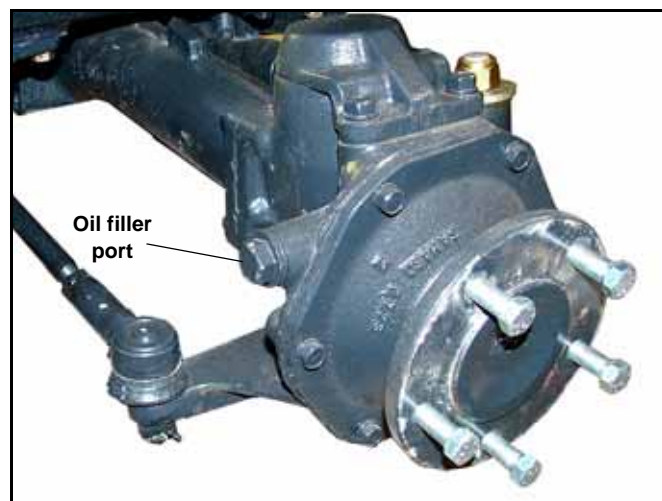


Figure 4-32

## General engine maintenance

Detailed instructions and recommendations for break-in and regular maintenance are specified in the Engine Owner's manual. Please refer to this manual for engine servicing, lubricating oil levels with the proper SAE rating and viscosity recommendations, bolt torques, etc. The engine warranty is backed by the manufacturer. Special attention should be paid to applicable data which will not be duplicated here.

## Park brake adjustment

The park brake must be adjusted when there is less than 0.38 in. (10mm) or more than 0.75 in. (19mm) of free play in the park brake lever (Figure 4-33), the park brake is dragging, or the park brake is not working effectively.

1. Park tractor on level ground, lower the mower deck or front mount attachment to the ground, turn off tractor, and remove key. Chock the front drive tires to keep machine from rolling.
2. Check the park brake lever free travel distance: With the park brake lever all the way down (Off), pull the lever up until you notice resistance from brake engagement - measure this distance as shown in Figure 4-33. This free play distance should be 0.38 in. (10mm) to 0.75 in. (19mm).

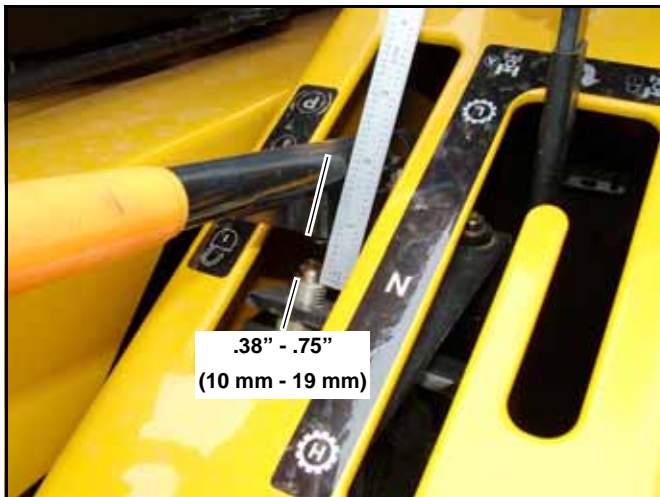


Figure 4-33

3. To adjust the park brake free play, raise the seat platform and secure it in the up position.

**IMPORTANT:** Make sure the seat platform is secured properly in the **up position** to prevent it from falling back down on you as you are working.

4. Loosen the jam nuts on each of the park brake cable in-line cable adjuster barrels as shown in Figure 4-34. Back the jam nuts off several turns.
5. Turn the in-line cable adjuster barrel (Figure 4-34) on each cable accordingly to properly adjust the cable. Lengthening the in-line cable adjuster assembly (exposing more threads) will tighten the cable and reduce the free play. Shortening the in-line cable adjuster assembly length (less exposed threads) will loosen the cable and create more free play. Both cables should be adjusted so they are providing equal free play when the brake is off, and equal brake force on each brake when the park brake is applied.

6. Re-check the free play (step 2). Re-adjust as necessary.
7. Tighten the jam nuts.

Once the park brake is adjusted properly, check to make sure it is working effectively and does not drag. If any problems persist, do NOT operate the tractor, and contact your dealer.

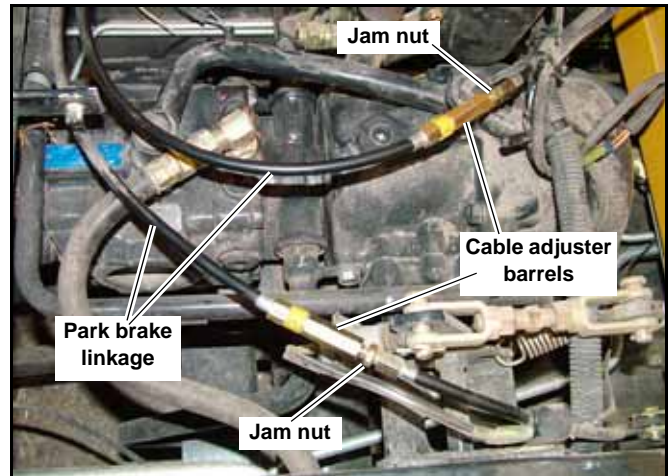


Figure 4-34

## Inspecting and adjusting the service brake

The service brake must be adjusted when:

- a. There is less than 0.38 in. (10mm) or more than 0.75 in. (19mm) of free travel in the brake pedal (Figure 4-35 & Figure 4-36), or,
  - b. When the brakes do not work effectively, or,
  - c. When the brakes are dragging.
1. Park tractor on level ground, lower the mower deck or attachment to the ground, turn off tractor and remove key. Chock the front drive tires to keep machine from rolling. Make sure the park brake is in the OFF position.
  2. Check the free travel of the brake pedal (Figure 4-35 & Figure 4-36). This is determined by the distance the brake pedal travels from its rear most position pushing forward on the pedal until you feel the brakes beginning to engage. Measure this distance - if it is more than 0.75 in. (19mm) or less than 0.38 in. (10mm), the brakes must be adjusted.
  3. The brake linkage rods are located underneath the floor pan. (Figure 4-37) Loosen the jam nuts located behind the front clevis on each of the brake linkage rod assemblies. Back the jam nuts off. Figure 4-38
  4. Adjust the brake linkage rods accordingly until the proper brake pedal free play is achieved. Make sure the right and left brake linkage rod lengths are adjusted equally.
  5. Re-check the pedal free play (step 2). Re-adjust as necessary.
  6. Tighten the jam nuts against the clevis base.

Once the brakes have been properly adjusted, check to make sure they are working correctly on the tractor in a safe area away from any obstructions or bystanders. Make sure the braking force on both front drive wheels is equal. Re-adjust if necessary.

If you find that the brakes are dragging, check the park brake adjustment. If this does not fix the problem and your brakes



continue to work incorrectly, **do not operate the tractor** and contact your Hustler Dealer.

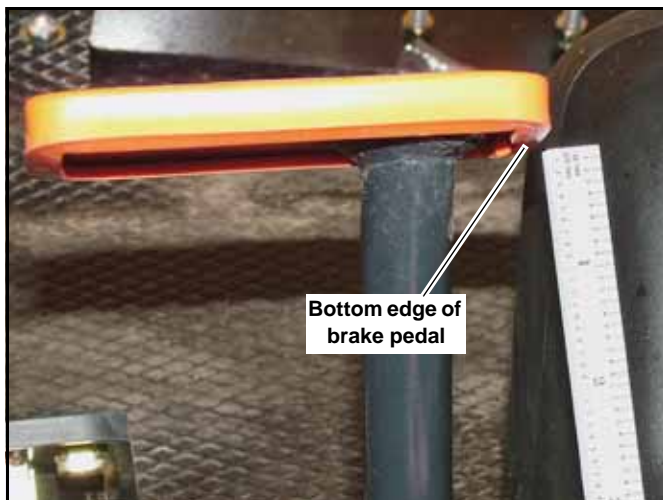


Figure 4-35

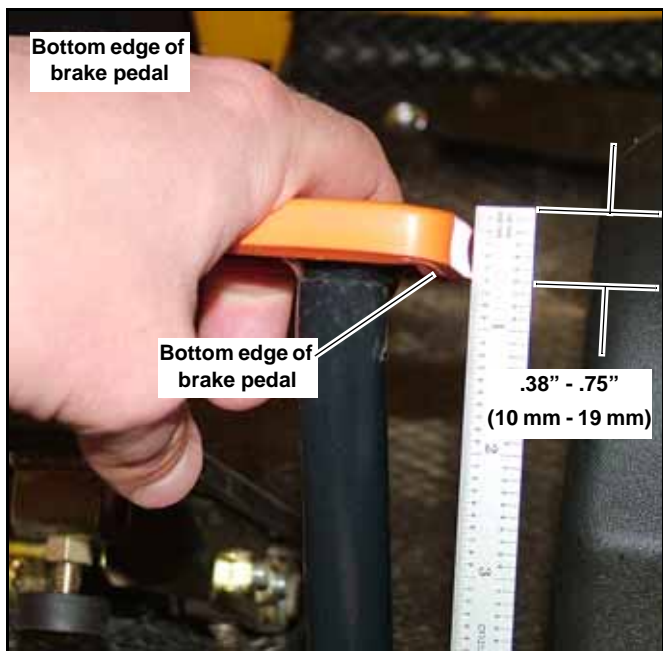


Figure 4-36

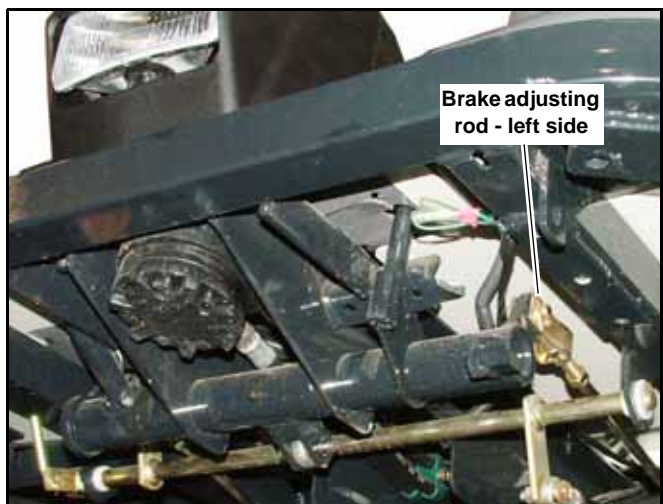


Figure 4-37

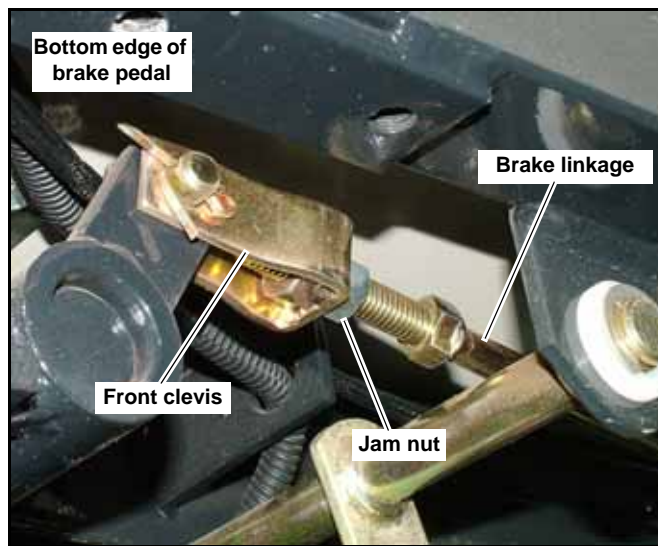


Figure 4-38

### Rear wheel toe adjustment

1. Park the tractor on a flat, level surface with the rear wheels oriented so the tractor will drive a straight line forward.
2. Fully engage the park brake, lower the cutting units, and turn off the tractor. Remove the keys. Chalk the front drive tires of the tractor.
3. Measure 'F' and 'R' dimensions: The distance between the inside of the rim edge of the RH wheel to the LH wheel. This measurement needs to be taken at the points on the wheel rims horizontal with the axle center. Figure 4-39
4. The 'F' dimension should be between 0.075" and 0.175" (1.905 mm - 4.445 mm) less than 'R' dimension.
5. If the toe-in must be re-adjusted to meet the dimensional requirements, loosen the jam nuts on either end of the tie rod. Figure 4-40
6. Once the jam nuts are both loose and backed off, rotate the tie rod in the appropriate direction and adjust accordingly to meet the dimensional requirements of step #4.
7. Tighten the jam nuts on either end of the tie rod. Make sure the ball joints on each end move freely once jam nuts are tightened.

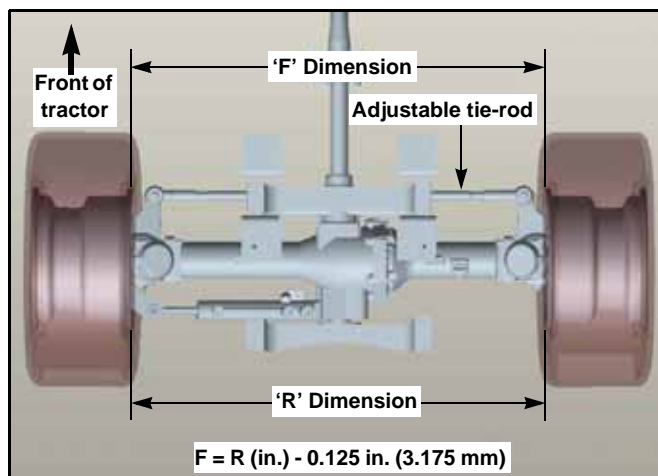


Figure 4-39

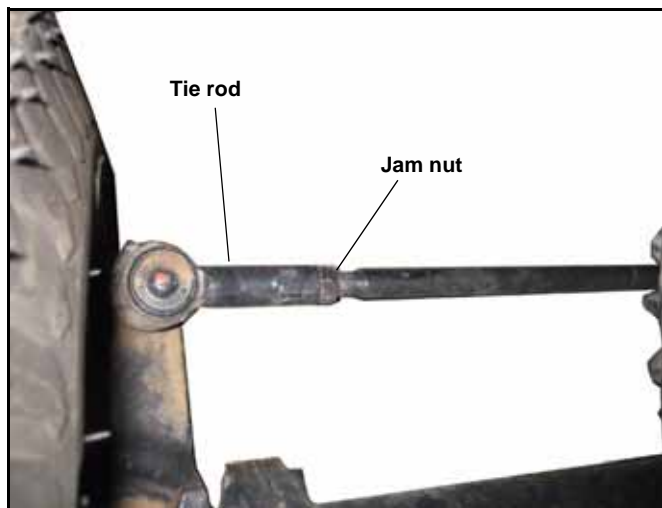


Figure 4-40

## Cutting unit maintenance & adjustments

### Removing the cutting unit



**WARNING:** Install or remove the cutting unit on a flat and stable surface. Make sure the work area is illuminated adequately. Otherwise, an accident may result.

When installing or removing the cutting units by moving the machine, **do not permit a person to be around the machine or to get between the machine and cutting unit.** Otherwise, injuries may result.

1. Lower the cutting units.
2. Remove the bolts tightening the reel motor and remove the reel motor. Figure 4-41
3. Pull out the L-shaped pin from the lowering arm. Figure 4-42
4. Remove the fixing bolt above the draw arm and remove the cutting unit. Figure 4-42

### Installing the cutting unit

Install the cutting unit in the reverse order to that described above.

**IMPORTANT:** Install the reel motor taking care the movement of the reel does not become restricted.

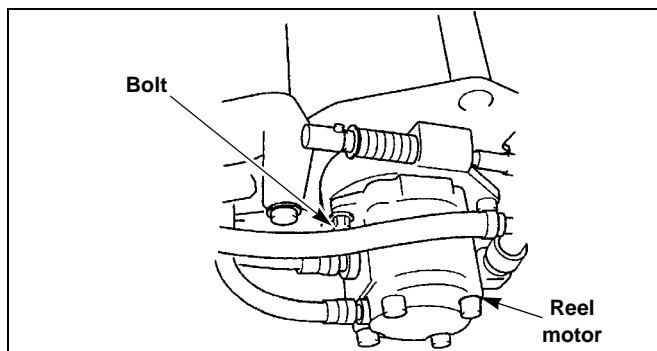


Figure 4-41

### Adjusting the cutting quality

In order to prevent damage to the reel during transportation, a wide clearance is provided between the reel and the bedknife at the time of shipment. The clearance should be adjusted before

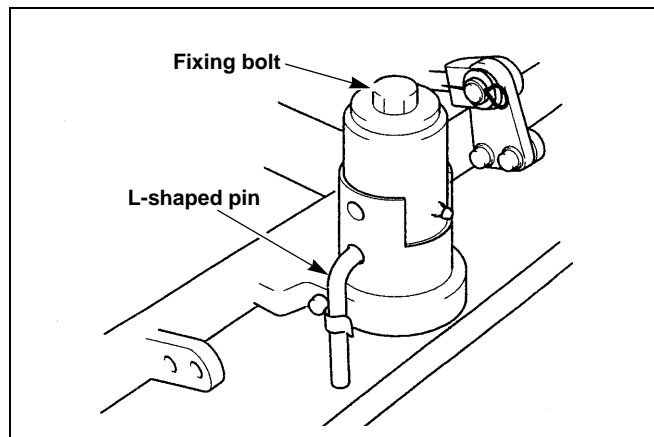


Figure 4-42

starting the cutting operation.

If the cutting quality deteriorates during operation, the reel and the bedknife should be adjusted. It may be necessary to backlap or grind the reel and bedknife to renew the quality of cut.



**DANGER:** When adjusting, be sure to stop the engine and adjust after the cutting reels stop rotating.

To rotate the reel, be sure to use the blade rotating tool.

Do not touch the reel knife directly by hand.

1. Insert a piece of newspaper torn into a strip between the reel knives and bedknife at the center, and right and left sides of the reel knives, turn the reel in the cutting direction toward the bedknife using the blade rotating tool and test the cutting quality. Figure 4-43

If the reel knives and bedknife are sharp and in good condition and the bedknife clearance is properly adjusted, the newspaper should shear off cleanly. The bedknife to reel clearance should be .001" - .002" (.0254mm - .0508mm).

2. If the clearance is too much, adjust by the following procedure.

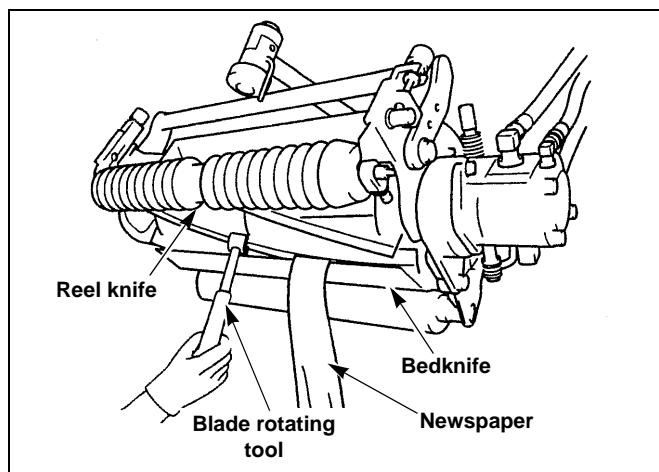
- a. Turn the adjusting nuts (right and left) clockwise with a 17mm wrench and decrease the clearance between the reel knives and the bedknife. Figure 4-44

The clearance between the reel knives and the bedknife decreases by rotating the adjusting nut clockwise and increases by rotating the adjusting nut counterclockwise.

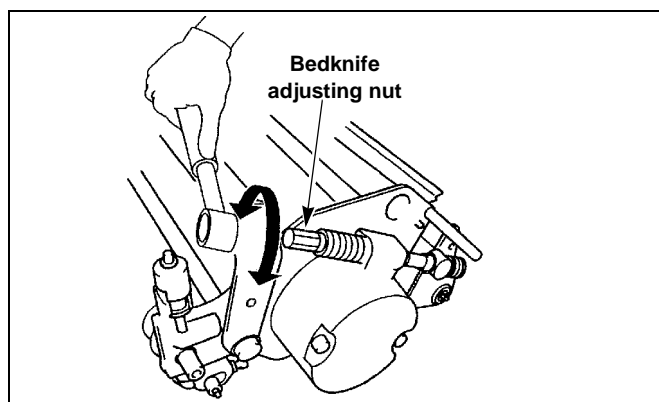
- b. Test the cutting quality with a piece of newspaper torn into a strip at the center, and right and left sides of the reel knives. Repeat the adjustment until the newspaper can be cut easily.

Make sure that the newspaper can be cut in the same way at any position of all the blades and that the reel rotates smoothly.

If the cutting quality is not satisfactory, then the cutting units may need to be backlapped or the reel and bedknife may need to be ground.)



**Figure 4-43**

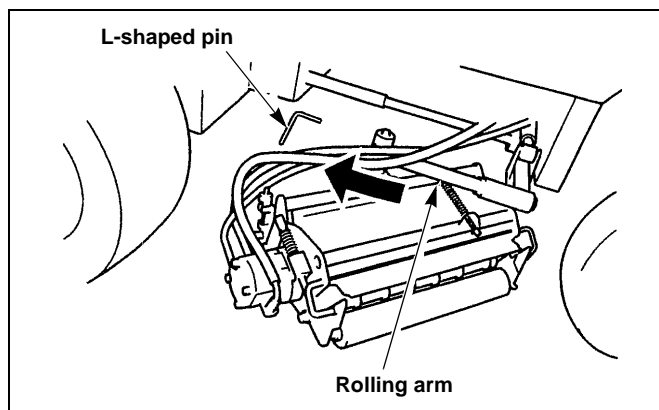


**Figure 4-44**

### **Positioning of No. 4 and 5 cutting units for maintenance**

No. 4 and 5 cutting units can be positioned as shown below when servicing them for maintenance.

1. Position when changing the rear roller bracket and discharge cover positions
  - a. Lower the cutting unit on a flat and stable ground.
  - b. Pull out the L-shaped pin from the rolling arm. Figure 4-45
  - c. Turn the front roller of the cutting unit to the center.



**Figure 4-45**

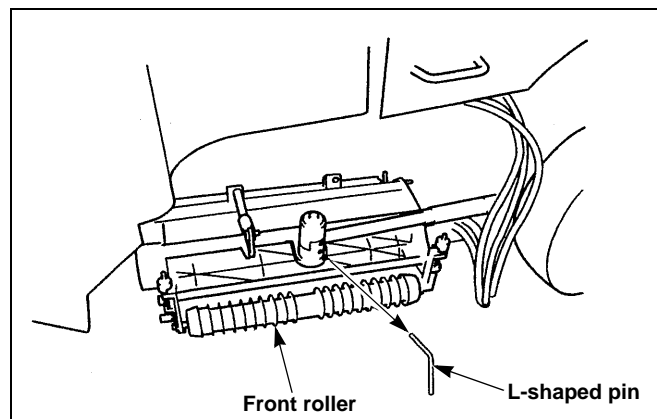
2. Position when backlapping
  - a. Lower the cutting unit on flat and level ground.
  - b. Pull out the L-shaped pin from the rolling arm.

Figure 4-45

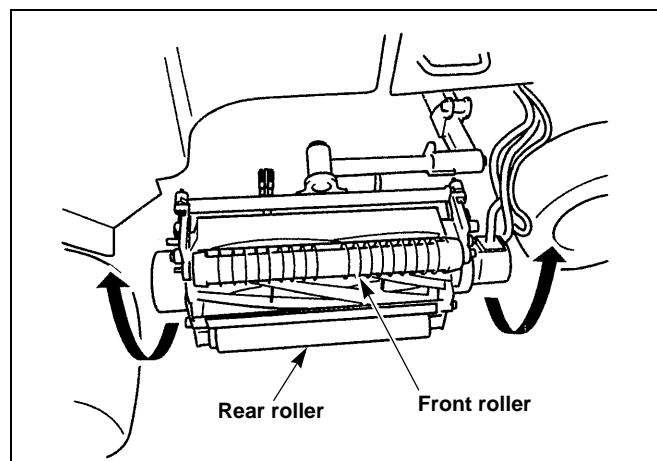
- c. Turn the front roller of the reel unit to the outside.

Figure 4-46

3. Cutting height adjustment position
  - a. Turn the front roller of the reel unit to the outside. Figure 4-46
  - b. Hold both ends of the front roller and lift upward. Cutting unit will rotate and sit on the rear feet. Figure 4-46 & Figure 4-47
  - c. To return to the original position, start the engine and lift the cutting units with the lift lever. Then, lower the cutting units. Cutting units will return to the backlapping position.



**Figure 4-46**



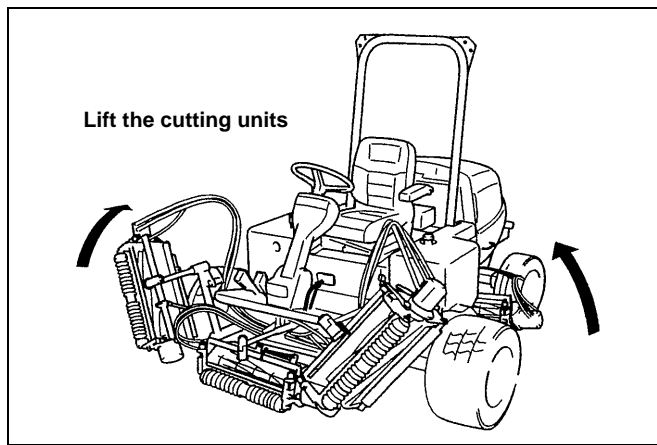
**Figure 4-47**

### **Adjusting the cutting height**

Before the cutting height can be adjusted it will be necessary to adjust the reel knives and the bedknife clearance on all five (5) cutting units.

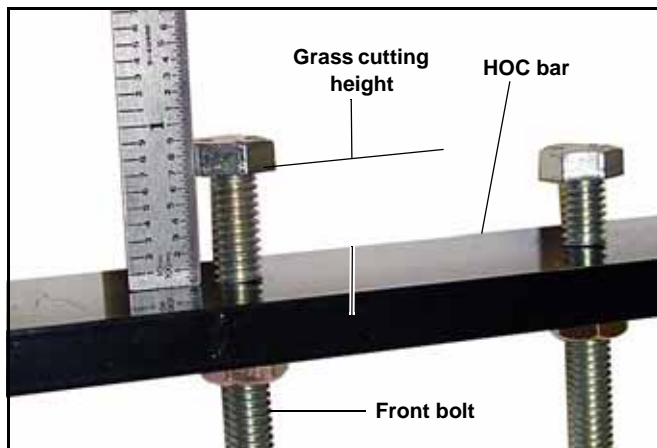
To cut the grass evenly, adjust the front and rear rollers using the following procedure:

1. Lift the cutting units and stop the engine Figure 4-48.
2. Position the No. 4 and 5 units to the cutting height adjusting position.
3. With the HOC (Height-Of-Cut) bar, loosen the nut of the cutting height gauge bolt, measure the distance between the underneath side of the bolt head and HOC bar with a ruler, adjust the distance to the desired mowing height, and secure the bolt by tightening the nut. This distance is

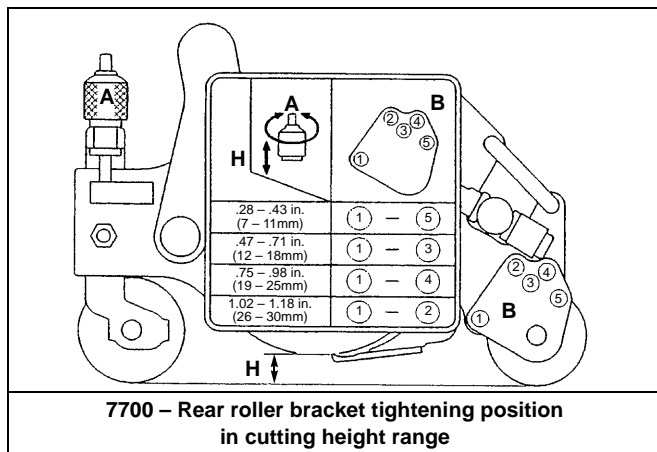


**Figure 4-48**

the grass cutting height. Figure 4-49

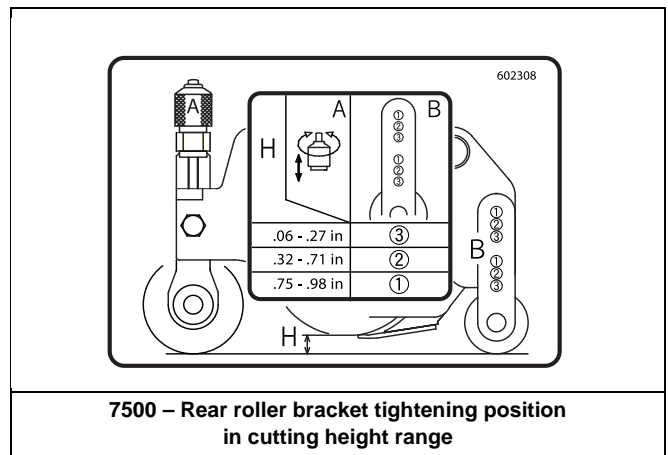


**Figure 4-49**

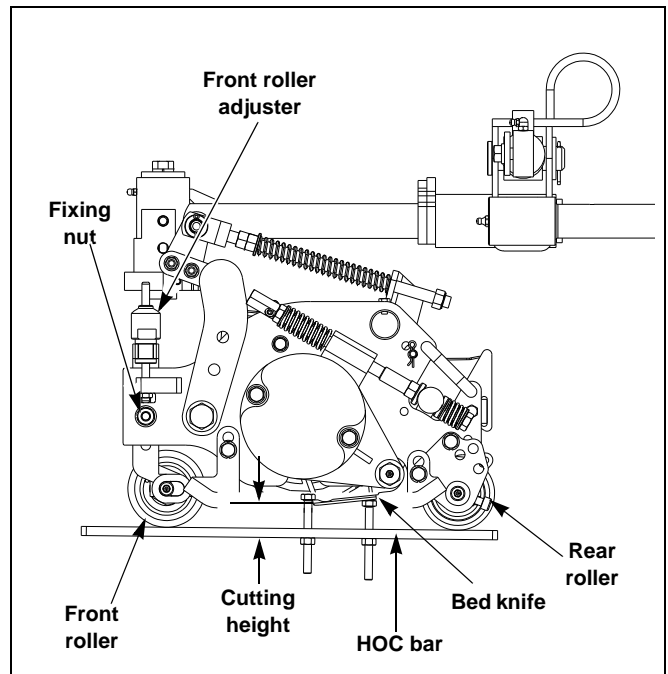


**Figure 4-50**

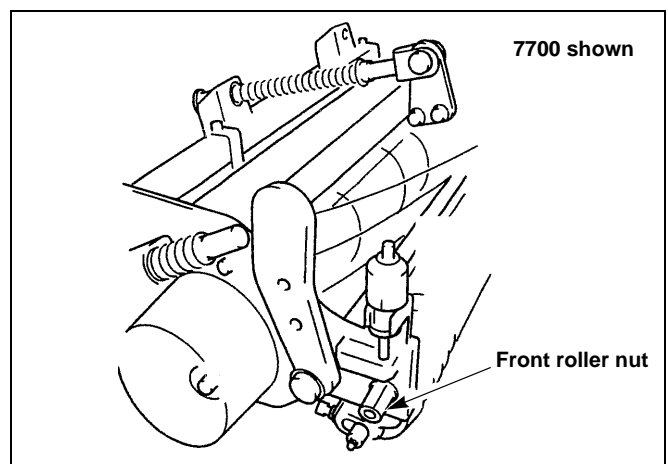
4. Select one of the cutting units and set the rear roller bracket in the desired cutting height range. Figure 4-50 or Figure 4-51
5. Loosen the front roller nut. Figure 4-53
6. Temporarily adjust both ends of the front roller to the cutting height by hooking the underneath side of the front bolt head over the top of the bed knife and adjusting the front roller so that both front and rear rollers touch the HOC bar and the top of the bed knife touches the underneath side of the front bolt head. Figure 4-54



**Figure 4-51**



**Figure 4-52**



**Figure 4-53**

7. Adjust the rear bolt on the HOC bar so that the bolt head comes in contact with the rear of the bed knife. Tighten the nut on the rear bolt. Figure 4-55
8. Raise the front roller so it doesn't touch the HOC bar.



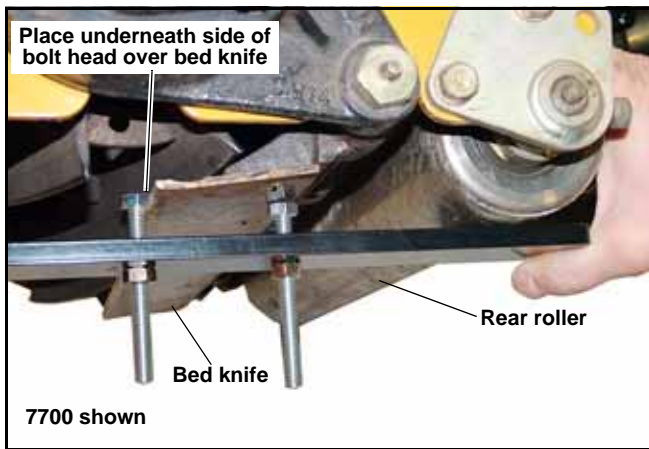


Figure 4-54

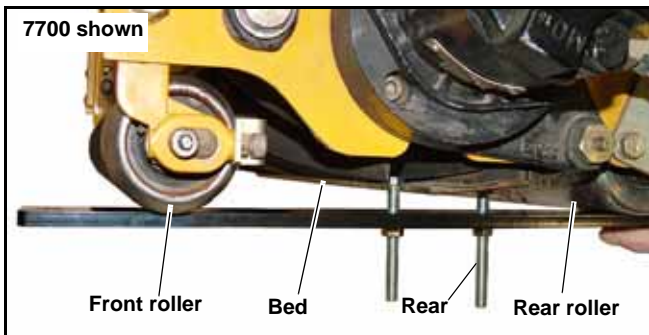


Figure 4-55

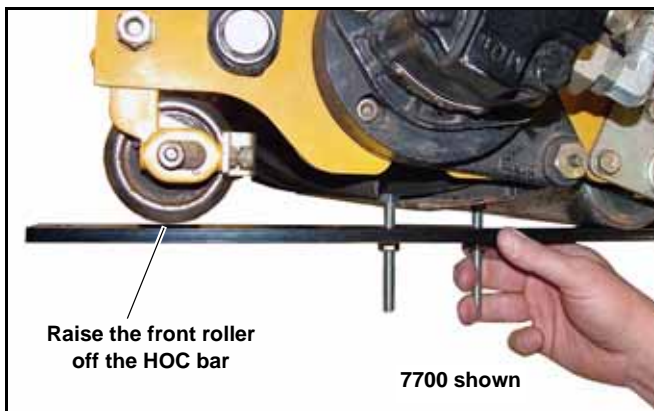


Figure 4-56

Figure 4-56

9. Move the HOC bar from left to right with the rear roller touching the HOC bar and the front bolt hooked on the blade. The rear bolt should make contact on the underside of the bed knife all the way across the cutting unit. If not, it will be necessary to loosen the rear roller bracket bolts and adjust the rear roller until it does. This assures that the bed knife is parallel to the rear roller. Tighten the rear roller bracket after this adjustment. Figure 4-52
10. After three point contact has been achieved, loosen the front roller adjusters and adjust the front roller until it contacts the HOC bar at both ends. This adjustment will give you four point contact and will assure the front roller, bed knife and rear roller are parallel. This is mandatory if the reel is to roll smoothly over the turf with

full roller contact across both rollers to give a reliable level cut. Figure 4-52

11. Tighten all roller adjustment bolts after setting the height of cut with the HOC Bar and repeat the process on the other four cutting units.

### Backlapping the cutting units



**WARNING:** Be sure to use the blade aligning fixture to rotate the reel.



**WARNING:** Be sure to coat the reel with backlapping compound using a brush with an extension handle of at least 16 inches (40.64cm).



**DANGER:** The reels may stall while backlapping and could restart suddenly. Contact with the reels during backlapping will cause personal injury. Never place hands or feet in the reel area while the engine is running.

Never attempt to turn the reels by hand or foot or touch the reels while backlapping.



**WARNING:** Contact with the cutting blades or other moving parts can result in personal injury. Keep fingers, hands and clothing away from the reels and other moving parts.

Always use a blade rotating tool to rotate the reels. Never use a short handle brush to apply lapping compound.

1. Position the tractor on a flat, level surface. Raise the cutting units. Fully engage the park brake and turn off the engine. Remove the keys from the tractor Figure 4-58
2. Determine the cutting quality of each cutting unit. Adjust the reel to bedknife clearance so the bedknife is parallel and just touching the reel. In very small increments, back the bedknife off **EVENLY** on both sides (.001" - .002")(.0254mm - .0508mm) so it has minimal clearance from the reel and is not making contact. Insert a piece of newspaper between the rotary blades of the reel and the bedknife. Turn the reel with the blade rotating tool in the cutting direction to cut the newspaper and test the cut quality. The newspaper should be cut cleanly without pinching or tearing. Note the cut quality to determine the need for clearance adjustment and required backlapping. Figure 4-59
3. Test the cut quality as stated above for each blade of each reel.
4. As stated in step 2, be sure the reel to bedknife clearance is set for all cutting units to be backlapped.
5. Switch each reel selector valve (Figure 4-57 & Figure 4-58) to rotate for each cutting unit to be backlapped.
6. Lower the cutting units to the ground. Position the rear cutting units (4 & 5) to the backlapping position if they are to be backlapped.
7. Start the tractor and set the throttle to low idle. Check that the transmission selector lever is in the Neutral position and the parking brake is fully engaged.



**WARNING:** Be sure to stay clear of the cutting units and use extreme caution around rotating reels!

8. Push the backlapping switch (Figure 4-61). The switch will glow green. Lower the cutting units to the ground. Push the cutting unit lift lever forward and release. The reels should begin rotating in the backlapping direction.
9. **Be sure to have a qualified mechanic show you how to do this for the first time before you attempt this on your own.** Using a minimum 16" (40.64cm) long handled brush, apply backlapping compound to the reel starting at one end and working toward the other. **Never use a short handled brush.** Figure 4-60
10. If the reel or reels slow down and stalls, it may be necessary to increase the throttle speed so the reel maintains a constant speed for backlapping. Be careful to keep the speed to a minimum to keep the lapping compound from being thrown off the reel.
11. Once you have completed the initial backlapping of the reel, the reel to bedknife clearance may need to be adjusted. Turn the engine off, be sure all moving parts come to a rest, and reset the reel to bedknife clearance by turning the bedknife adjusting nuts clockwise the same amount on each side of each reel being backlapped. 1/8 - 1/4 turn will likely be all that is required. Once you have reset the reel to bedknife clearance, repeat steps 7 and 9.
12. Repeat steps 9 thru 11 until you have achieved the desired results and the reel/bedknife are uniformly backlapped across the full width of the reel. You will hear that the reel is making contact all the way across by the sound when you move the brush across the spinning reel when applying the compound.
13. Repeat the above process for each cutting unit requiring backlapping.
14. Once all cutting units have been backlapped, the cutting units, reels, and bedknives must be completely cleaned and all lapping compound removed. **Do not** allow the cutting units to be operated in the cutting direction until they are completely clean and free of lapping compound.
15. With the cutting units lowered to the ground and running in the backlapping direction at low idle, use a water hose to remove all lapping compound on the reel, bedknife and cutting unit assembly components. Figure 4-62

**IMPORTANT:** Do not use high pressure washer when removing lapping compound.



**WARNING:** Be sure to stay clear of the cutting units and use extreme caution around rotating reels!

16. After all cutting units are completely clean, turn off the backlapping switch, raise the cutting units, and shut off the engine.
17. Re-adjust and/or check the reel to bedknife clearance to determine that the reel(s) are cutting properly.
18. Reset all of the reel selector valves to the desired position.
19. Return the rear cutting units to their normal cutting positions and be sure the L-pins are properly inserted and secured in the proper location. .

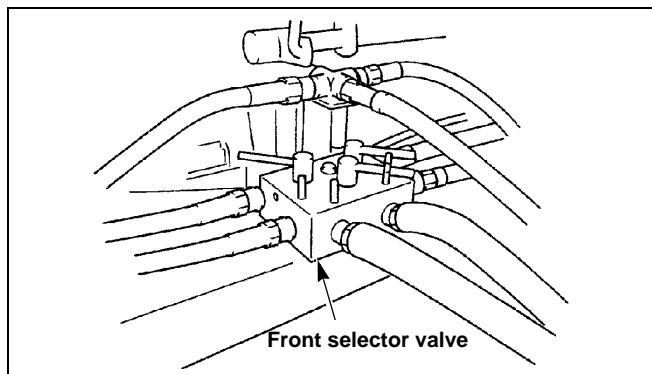


Figure 4-57

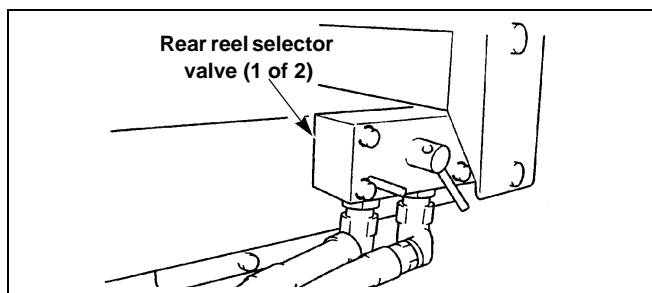


Figure 4-58

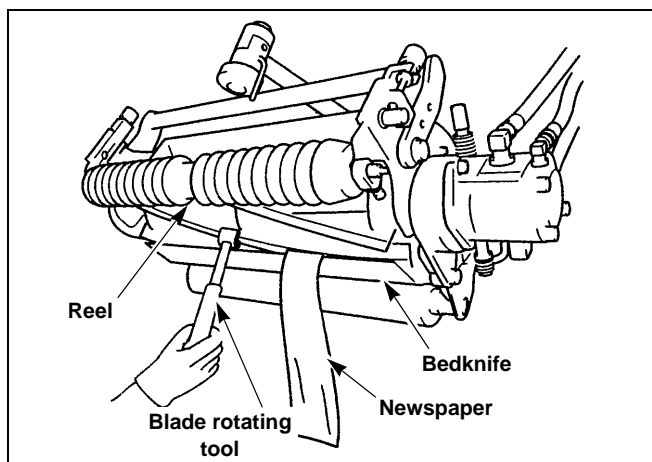


Figure 4-59

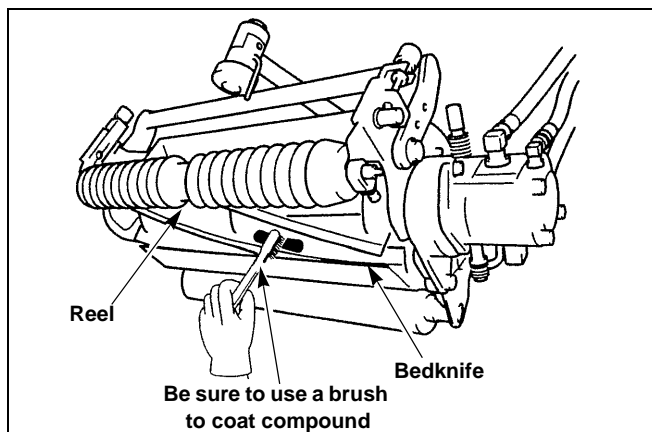


Figure 4-60

#### Down pressure spring

Each cutting unit is provided with a down pressure spring. The spring functions to keep the cutting unit and ground always in contact with each other to improve the cutting quality. When

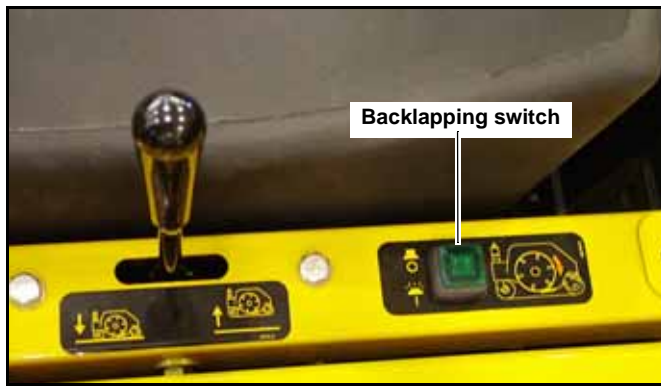


Figure 4-61

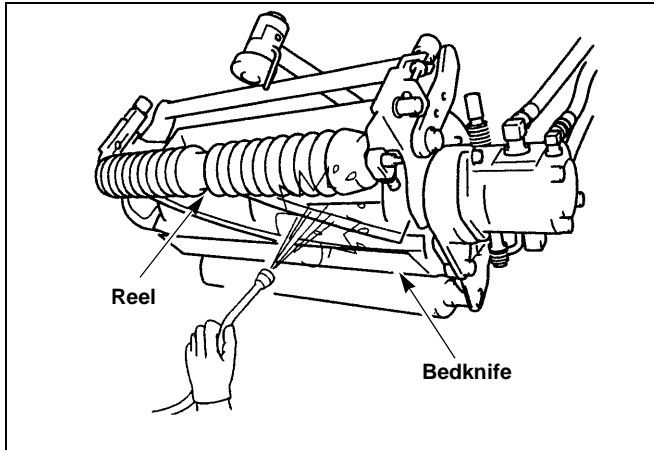


Figure 4-62

changing the cutting quality or to optimize the cutting quality, check and adjust the spring.

1. After adjusting the cutting height of each unit, lower the cutting unit on flat ground and measure the spring length.
2. Loosen nut 'Y' to adjust Dimension A to be  $1.18'' \pm .08''$  ( $30\text{mm} \pm 2\text{mm}$ ). Complete this adjustment for each cutting unit. This will keep the cutting unit down pressure consistent. (Figure 4-63) By this adjustment, down pressure load of all of the 5 units becomes constant. Figure 4-63
3. Adjust nut 'Z' so Dimension B is  $.2'' \pm .08''$  ( $5\text{mm} \pm 2\text{mm}$ ). By this adjustment, the amount of drop of the rear of the cutting unit will be limited to the same on all units. Figure 4-63.

**NOTE:** Be sure to adjust the compressed spring length with the units sitting on level ground and/or clearance A and B to the

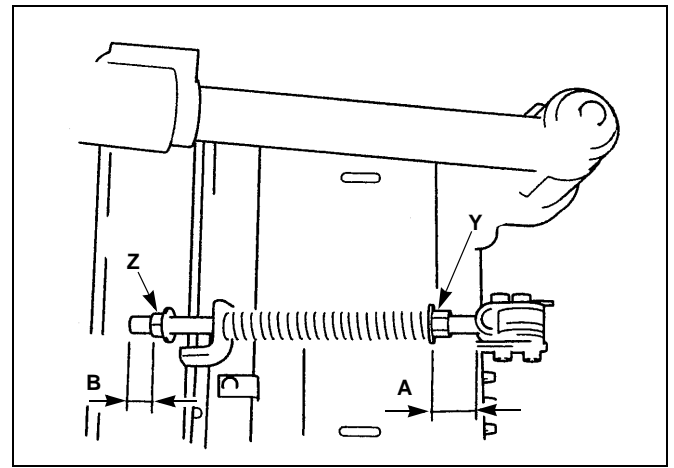


Figure 4-63

#### Fixing the cutting unit steering angle

Steering angle of each cutting unit is provided so that the damage on the turf at the time of turning of the machine is reduced. The steering angle can be fixed depending on the operating conditions (e.g. Sports turf fields).

1. Lower the cutting unit on a flat ground and pull out the L-shaped pin. Figure 4-64
2. Insert the L-shaped pin into the upper hole. If it cannot be easily inserted, move the steering angle of the cutting unit and try to insert it again. Figure 4-64

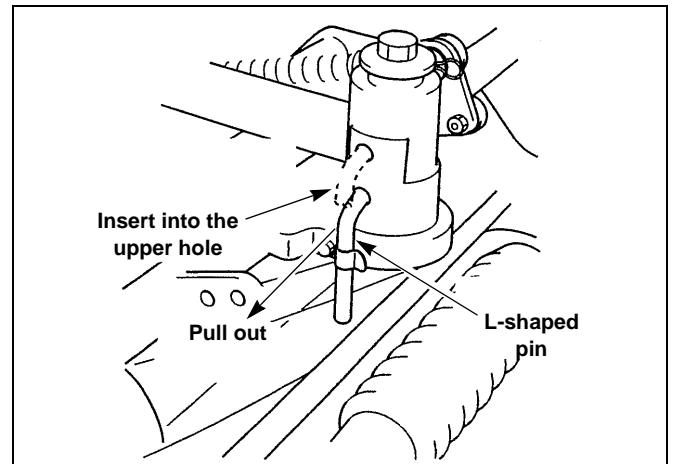


Figure 4-64

## Maintenance Locator Chart

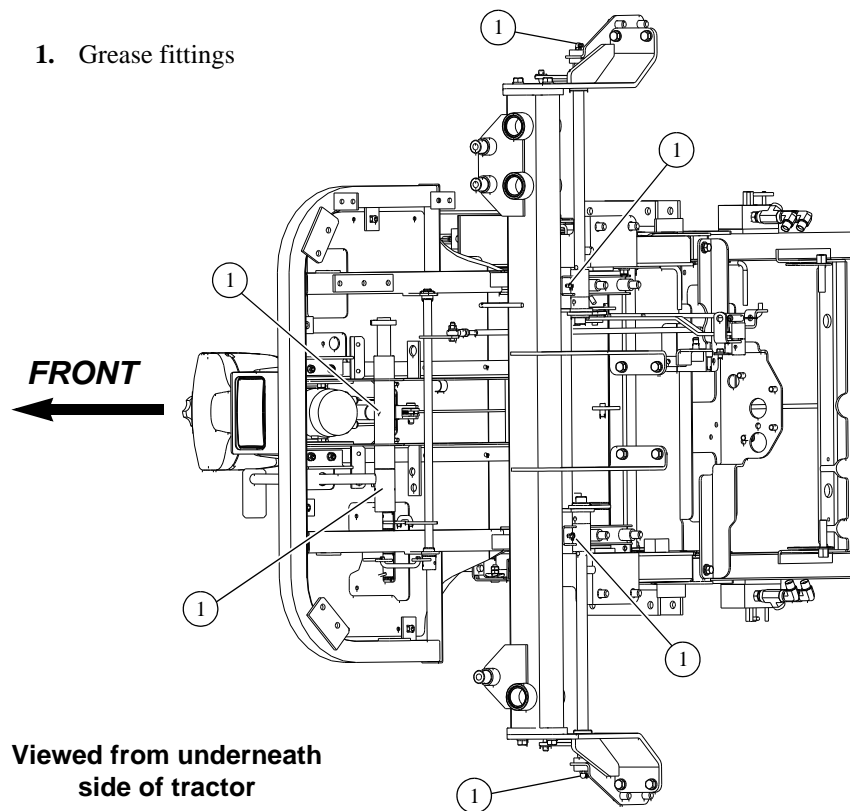


Figure 4-65

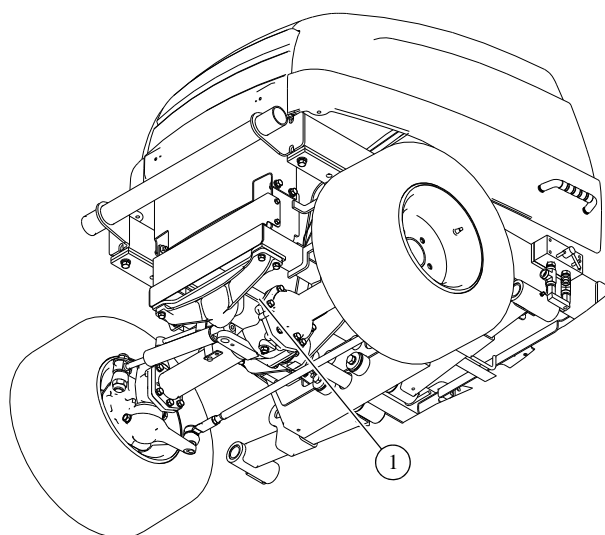


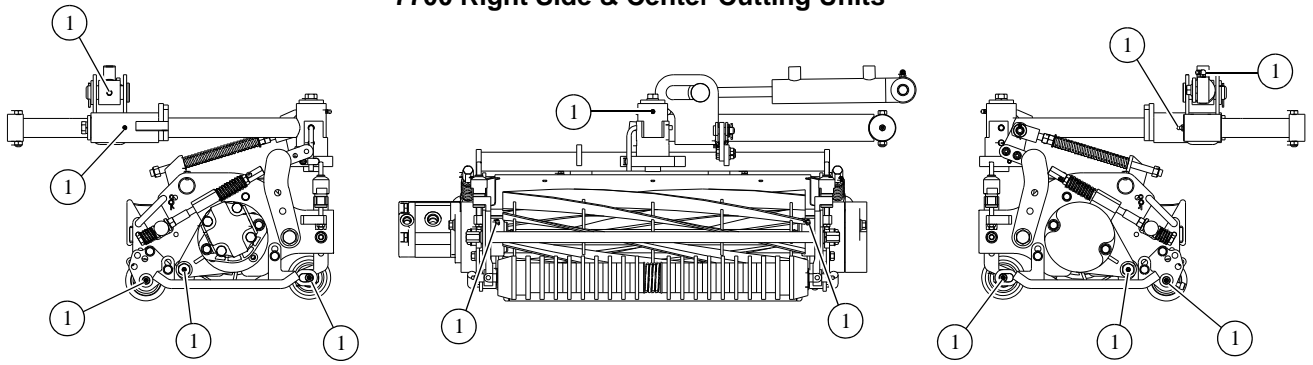
Figure 4-66

1. Grease fittings



## Maintenance Locator Chart

### 7700 Right Side & Center Cutting Units

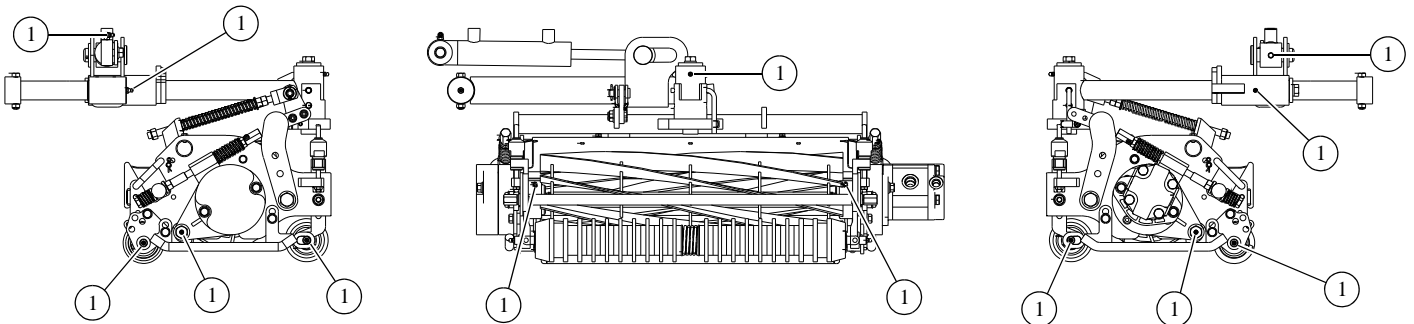


1. Grease fittings

Figure 4-67

---

### 7700 Left Side Cutting Units



1. Grease fittings

Figure 4-68

# Maintenance Locator Chart

7500 Left Side Cutting Unit Shown  
Right Side & Center Cutting Units Opposite

1. Grease fittings

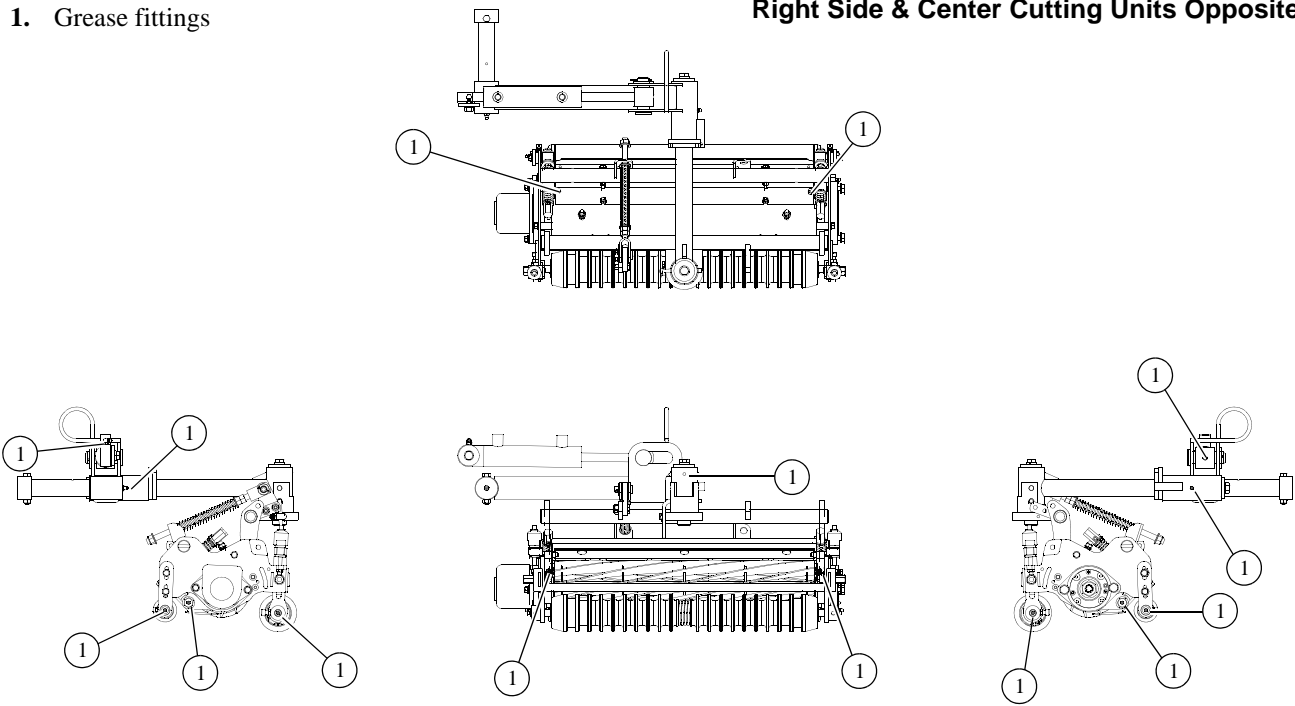


Figure 4-69

## Maintenance Locator Chart



**Figure 4-70**

1. Grease fittings
2. Engine Oil Fill
3. Cutting Unit Oil Filter
4. Engine Air Cleaner
5. Radiator Cap
6. HST System Filter
7. Power Steering System Oil Filter
8. Engine Oil Filter & Dipstick
9. Wheels & Tires
10. Fuel Filter
11. Battery
12. Fan Belt
13. Transmission Oil Fill
14. Rear Axle 4WD Oil Fill/Dipstick
15. Cutting unit hydraulic fill
16. Cutting unit hydraulic sight gauge



**Figure 4-71**

## Maintenance Locator Chart

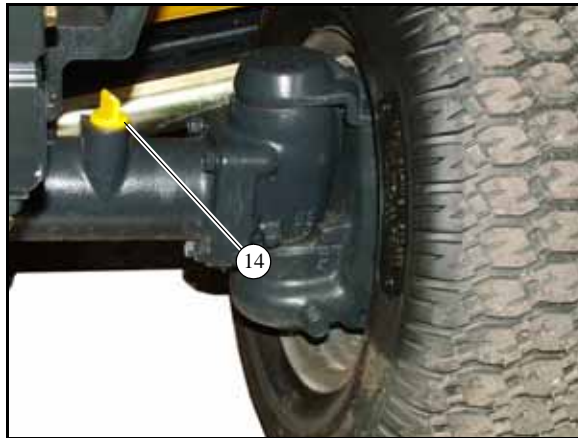


Figure 4-72



Figure 4-73

1. Grease fittings
2. Engine Oil Fill
3. Cutting Unit Oil Filter
4. Engine Air Cleaner
5. Radiator Cap
6. HST System Filter
7. Power Steering System Oil Filter
8. Engine Oil Filter & Dipstick
9. Wheels & Tires
10. Fuel Filter
11. Battery
12. Fan Belt
13. Transmission Oil Fill
14. Rear Axle 4WD Oil Fill/Dipstick
15. Cutting unit hydraulic fill
16. Cutting unit hydraulic sight gauge

## Maintenance Schedule

**Refer to Figure 4-65, Figure 4-66, Figure 4-67, Figure 4-68,  
Figure 4-69, Figure 4-70, Figure 4-71, Figure 4-72, & Figure 4-73**

SERVICE AT INTERVALS INDICATED	Daily	First 50 hours	Every 50 hours	Every 100 Hours	Every 200 hours	Every 500 hours	Seasonal
Engine oil level	X						
Radiator coolant level	X						
Radiator screen	X						
Visually inspect unit for loose hardware and/or damaged parts (A)	X						
Hydraulic filter - replace		X				X	
HST filter - replace		X				X	
Cutting unit system filter - replace		X				X	
Engine oil - replace		X		X			
Engine oil filter - replace					X		
Tire pressure		X					
Wheel lug bolt torque (B)		X					
All fluid levels		X					
Tire pressure			X				
Battery			X				
Fan Belt inspection			X				
Transmission oil - check level			X				
Cutting unit grease fittings - lubricate			X				
Cutting unit cylinder grease fittings - lubricate			X				
Brake pedal shaft grease fitting - lubricate			X				
Power steering cylinder grease fitting - lubricate			X				
Fuel filter - drain				X			
Rear axle 4WD oil - check level				X			
Check hydraulic hoses & fuel lines for cracks and leaks				X			
Fuel filter element - replace					X		
Fan belt tension					X		
Wheel lug bolt torque (B)			X				
Transmission oil & filters - replace						X	
Cutting unit system oil & filter - replace						X	
Rear axle 4WD oil - replace						X	
Air cleaner element - replace (Refer to <i>Engine Air Filter</i> section)							X
Radiator coolant - replace							X

**NOTE:**

- A. Trash and clipping buildup around engine could cause a fire. Keep engine compartment and muffler area clean.
- B. Torque wheel lug bolts to 85-95 ft.-lbs. (55-83 KPa) after the first 2 hours of operation.





# STORAGE

When storing the unit at the end of the mowing season, the following steps should be taken to ensure readiness for the next mowing season.

1. Remove all grass, dirt, and trash from tractor and cutting units.  
**IMPORTANT:** Wash the machine with a mild detergent and water. Do not pressure wash the machine. Avoid excessive use of water.  
Clean tractor and mower and touch up all scrapes with touch-up paint.
2. Install new air filter per Engine Owner's Manual.
3. Check thoroughly for any worn or damaged parts that need replacing and order them from your dealer.
4. If the tractor does not have a cutting unit mounted, raise the lift arms hydraulically to their fully raised position so that the lift cylinder is fully retracted. This will protect the cylinder rod surfaces from corrosion.
5. Lubricate the unit. Drain and refill the transmission, hydraulic system and front axle with new oil.
6. Block tractor up so weight is off tires. Check tire pressure and inflate to proper operating pressure.  
**NOTE:** Do not deflate tires.
7. Perform separate engine preparation as listed below.  
**NOTE:** Store tractor in a clean, dry place.
8. Remove the battery from machine
  - a. Clean battery, terminals and cable connectors
  - b. Charge the battery, if necessary
  - c. Store battery in a cool, dry place (do not expose to freezing temperatures)
  - d. Always keep the battery fully charged. (Especially important to prevent battery damage when the temperature is below 32°F.)

## Preparation of engine for storage

When engine is to be unused for long periods, proceed as follows:

1. Run engine for a minimum of 15 minutes.
2. Drain oil from crankcase while engine is still warm.
3. Replace oil filters.
4. Refill with fresh oil of proper viscosity.
5. Start engine and allow it to run for a several minutes. Re-check oil and add if necessary.
6. Special precautions should be taken to protect the fuel injection pump and injector nozzle against corrosion and gumming.
7. Flush the fuel system with a special oil, a quantity of which will remain in the system when the engine is shutdown. Special diesel fuel system flushing oils are available from most oil companies. If this oil is not available, mix 0.5 qts. (0.5 liters) of SAE 10 non-detergent engine oil with 2.64 gal. (10 liters) of No. 2 diesel fuel. Drain the fuel tank and pour 1.85 gal. (7 liters) of the special flushing oil (or lubricating mixture) into the fuel tank. Run the engine for 10 minutes to ensure complete distribution of the special oil through the

injection pump and fuel injectors. There is no need to remove the injector nozzles.

8. Fill the fuel tank with No. 1 diesel fuel.  
**IMPORTANT:** Do not use No. 2 diesel fuel, for winter storage, because of wax separation and setting at low temperature.
9. Open the drain valve on the radiator. Flush the system, close the drain valve and fill the system with a 50/50 solution of ethylene glycol antifreeze and clean, distilled water.
10. Crank engine with starter at least a dozen revolutions to distribute oil over cylinder walls and valve mechanism.
11. Clean exterior surface of engine. Spread a light film of oil over any exposed metal surfaces of engine that are subject to corrosion.
12. Clean dirt and chaff from radiator fins and muffler.
13. Check oil filler cap and fuel tank cap to make certain they are securely in place.
14. Refer to engine manual for more information.

## Preparation of cutting unit for storage

1. Make sure cutting units are clean and dry.
2. Grease all lift arm and reel grease fittings.
3. Backoff reels to bedknife adjustments
4. Set reels down and while springs are in backlap mode spray with a rust inhibitor.

## New season preparation

Before starting the tractor following post season storage, the following servicing is required:

1. Clean tractor, removing trash and dirt accumulation.
2. Check engine oil level and common sump (for the hydraulic lift, transmission, front axle and power steering) and the rear axle.
3. Install a fully charged battery.
4. Check the cooling system for proper level of 50/50 solution of anti-freeze and clean, distilled water.
5. Tighten any bolts that have loosened and make sure all hair pins, cotter pins and clevis pins are in place.
6. Install all safety shields and review safety precautions listed in this manual.
7. Check and inflate tires to 8-12 psi.
8. Refer to engine manual for more information.
9. Start the engine and allow it to idle a few minutes. Be sure the engine has proper oil pressure and that each control is functioning properly.
10. Drive the unit without load and check to be sure it is operating satisfactorily.

## PRODUCT LITERATURE

If you would like to view or print a copy of the Hustler 7500/7700 product manuals go online to [www.hustlerturf.com](http://www.hustlerturf.com) and click on the *MANUALS* button.

# INDEX

	PAGE		PAGE
Brake Controls .....	3-4	Operation .....	3-1
Children .....	3-3	Parts and service .....	1-1
Controls .....	3-4	Power Steering .....	3-10
Controls & Instrumentation .....	3-3	Preparation of engine for storage .....	5-1
Cooling system .....	4-9	Safe Operating Practices .....	3-1
Driving the tractor .....	3-11	Safe Servicing Practices .....	4-1
Electrical system .....	4-3	Safety .....	2-1
Engine air filter .....	4-7	Safety interlock system .....	3-7
Engine oil and filter .....	4-7	Seat adjustment .....	3-6
Engine starting .....	3-7	Service .....	4-1
Fuel system .....	4-5	Slope Operation .....	3-2
General engine maintenance .....	4-14	Steering wheel adjustment .....	3-6
Hydraulic lift system controls .....	3-5	Stopping the engine .....	3-9
Instrument Panel .....	3-3	Switches .....	3-4
Lubrication .....	4-2	Tires .....	4-2
Maintenance & Adjustments Introduction .....	4-1	To the new owner .....	1-1
Maintenance Locator Chart .... 4-22, 4-23, 4-24, 4-25, 4-26		Torque values .....	4-2
Maintenance Schedule .....	4-27	Transmission controls .....	3-4
Model and serial number .....	1-1	Transmission, front axle and hydraulic system .....	4-10
New season preparation .....	5-1	Transporting the unit .....	3-12
Opening the hood .....	4-2	Using a ramp .....	3-2
Opening the seat platform .....	4-2	Using this manual .....	1-1
Operating the hydraulic system .....	3-9	Warranty registration .....	1-1

